P nasonic

DVD/VCR DECK

Operati Instructions

Mode AG-VP320

VHS

onal / Industrial Video

Connections and Initial Set 2 to 17.

DOLBY DIGITAL

dts 2.0+DIGITAL OU

COMPACT disc DIGITAL VIDEO

DVD VIDEO

MULTI FORMAT

JPEG Playback

DV

* Ability to play b

Please read these instructions carefully before attempting to connect, operate or adjust this product.
Please save this manual.

PRO LINE

LSQT0966 A

Initial Setup

Basic Operation

VCR Operation

DVD Operation

For Information

Important Safeguards and Precautions

⚠ WARNING

TO REDUCE THE RISK OF ELECTRIC SHOCK, FIRE, INJURY TO PERSONS OR DAMAGE TO THIS PRODUCT, READ AND RETAIN ALL SAFETY AND OPERATING INSTRUCTIONS. HEED ALL WARNINGS IN THE MANUAL AND ON THE PRODUCT.

INSTALLATION

1 POWER SOURCE CAUTION
Operate only from a power source indicated on the unit or in this manual. If necessary, have your Electric Utility Service Company or Video Products Dealer verify the power source in your home.

2 POLARIZED OR GROUNDING PLUG
As a safety feature, this product comes with either a polarized power cord plug (one blade is wider than the other), or a three-wire grounding type plug.

POLARIZED PLUG CAUTION:
This plug will only fit into an outlet one way. If you cannot fully insert the plug, try reversing it. If it still will not fit, have an electrician install the proper wall outlet. Do not defeat the safety feature by tampering with the plug.

GROUNDING PLUG CAUTION:
This plug will only fit into a three-hole grounding outlet. If necessary, have an electrician install the proper outlet. Do not defeat the safety feature by tampering with the plug.

3 POWER CORD
Make sure power cords are routed so that they are not likely to have anything rest on them, roll over them, or be in the way of walking traffic. If an extension cord is used, make sure it also has either a polarized or grounded plug and that the cords can be securely connected. Frayed cords, damaged plugs, and damaged or cracked wire insulation are hazardous and should be replaced by a qualified service technician. Overloaded outlets and extension cords are fire hazards and should be avoided.

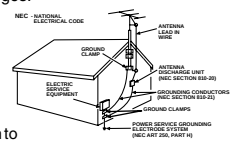
4 DO NOT BLOCK VENTILATION HOLES
Ventilation openings in the cabinet release heat generated during operation. If they are blocked, heat build-up inside the unit can cause failures that may result in a fire hazard or heat damage to cassettes or discs.
For protection, follow these rules:
a. Never cover ventilation slots or the unit while in use, or operate the unit when placed on a bed, sofa, rug, or other soft surface.
b. Avoid built-in installation, such as a book case or rack, unless proper ventilation is provided.

5 PLACEMENT: AVOID EXTREMELY HOT LOCATIONS OR SUDDEN TEMPERATURE CHANGES
Do not place the unit over or near heater or radiator, in direct sunlight, inside closed vehicles, in high temperature [over 104 °F (40 °C)], or in over 75 % humidity. If the unit is suddenly moved from a cold place to a warm one, moisture may condense in the unit and on the tape causing damage. Never subject the unit to vibration, impact, or place it so that the surface is tilted as internal parts may be seriously damaged.

6 TO AVOID PERSONAL INJURY
- Do not place unsecured equipment on a sloping surface.
- Do not place this unit on any support that is not firm, level, and adequately strong. The unit could fall causing serious injury to a child or adult and damage to the unit.
- An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.
- Carefully follow all operating instructions and use the manufacturer's recommended accessories when operating this unit or connecting it to any other equipment.

OUTDOOR ANTENNA INSTALLATION

1 SAFE ANTENNA AND CABLE CONNECTION
If an outside antenna or cable system is connected to the equipment, be sure the antenna or cable system is grounded so as to provide some protection against built up static charges and voltage surges.
Section 810 of the National Electrical Code, ANSI/NFPA 70 (in Canada, part 1 of the Canadian Electrical Code) provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes and requirements for the grounding electrode.


NEC - NATIONAL ELECTRICAL CODE
ANTENNA LEAD IN WIRE
GROUND CLAMP
ANTENNA DISCHARGE UNIT (NEC SECTION 810-20)
ELECTRIC SERVICE EQUIPMENT
GROUNDING CONDUCTORS (NEC SECTION 810-21)
GROUND CLAMPS
POWER SERVICE GROUNDING ELECTRODE SYSTEM (NEC ART 250, PART H)

2 KEEP ANTENNA CLEAR OF HIGH VOLTAGE POWER LINES OR CIRCUITS
An outside antenna system should be located well away from power lines, electric light or power circuits and where it will never come into contact with these power sources if it should happen to fall. When installing an outside antenna, extreme care should be taken to avoid touching power lines, circuits or other power sources as this could be fatal. Because of the hazards involved, antenna installation should be left to a professional.

USING THE UNIT

If the unit has been in storage or moved to a new location, refer first to the INSTALLATION section of these safeguards.

1 KEEP THE UNIT AWAY FROM WATER OR MOISTURE OF ANY KIND.

2 IF EQUIPMENT IS EXPOSED TO RAIN, MOISTURE, OR STRONG IMPACT, unplug the unit and have it inspected by a qualified service technician before use.

3 DURING AN ELECTRICAL STORM
During a lightning storm, whether indoors or outdoors, or before leaving the unit unused for extended periods of time, disconnect all equipment from the power source as well as the antenna and cable system.

4 WHEN THE UNIT IS PLUGGED IN
- Never expose the unit to rain or water. DO NOT OPERATE if liquid has been spilled into the unit. Immediately unplug the unit, and have it inspected by a service technician. Fire and shock hazards can result from electrical shorts caused by liquid contact inside.
- Never drop or push any object through openings in the unit. Some internal parts carry hazardous voltages and contact can cause electric shock or fire hazard.
  Do not put any foreign object on the disc tray.
- Avoid placing the unit directly above or below your TV set as this may cause electrical interference. Keep all magnets away from electronic equipment.

5 USING ACCESSORIES
Use only accessories recommended by the manufacturer to avoid risk of fire, shock, or other hazards.

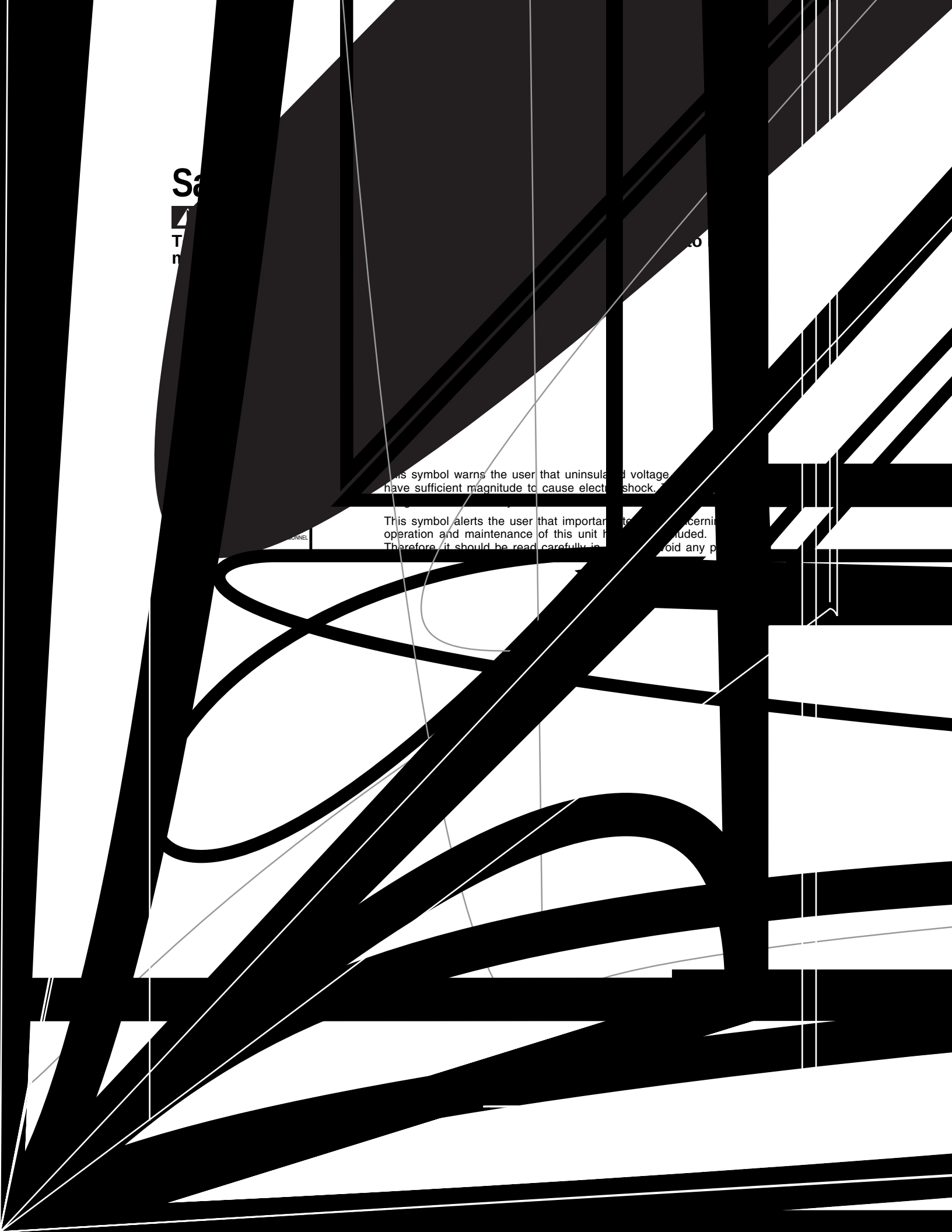
6 CLEANING THE UNIT
Unplug the unit. Then, use a clean, dry, chemically untreated cloth to gently remove dust or debris. DO NOT USE cleaning fluids, aerosols, or forced air that could over-spray, or seep into the unit and cause electrical shock. Any substance such as wax, adhesive tape, etc. may mar the cabinet surface. Exposure to greasy, humid, or dusty areas may adversely affect internal parts.

SERVICE

1 DO NOT SERVICE THIS PRODUCT YOURSELF
If, after carefully following the detailed operating instructions, this product does not operate properly, do not attempt to open or remove covers, or make any adjustments not described in the manual. Unplug the unit and contact a qualified service technician.

2 IF REPLACEMENT PARTS ARE REQUIRED
Make sure the service technician uses only parts specified by the manufacturer, or those having the same safety characteristics as the original parts. The use of unauthorized substitutes may result in fire, electric shock, or other hazards.

3 HAVE THE SERVICE TECHNICIAN PERFORM A SAFETY CHECK
After any service or repairs to the unit, request the service technician to conduct a thorough safety check as described in the manufacturer's service literature to ensure that the unit is in safe operating condition.



Before Using

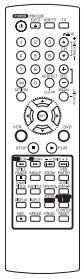
Congratulations

on your purchase of one of the most sophisticated and reliable products on the market today. Used properly, it will bring you years of enjoyment. Please fill in the information below. The serial number is on the tag located on the back of your DECK.

- Date of Purchase
- Dealer Purchased From
- Dealer Address
- Dealer Phone No.
- Model No. **AG-VP320**
- Serial No.

Accessories

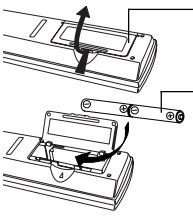
☐ Remote Control EUR7724KF0R



☐ Batteries 2 “AA”

☐ RF Coaxial Cable LSJA0418

Loading the Batteries



1) Open cover.
2) Insert batteries as marked.
3) Close cover.

☐ **Battery replacement caution**

- Do not mix old and new batteries.
- Do not mix alkaline with manganese batteries.

Record/ Playback Time

Only use tapes with the VHS mark in this DECK.

Tape Speed Setting	Type of Video Cassette		
	T120	T160	T180
SP (Standard Play)	2 Hours	2 Hours 40 Minutes	3 Hours
SLP (Super Long Play)	6 Hours	8 Hours	9 Hours

Head Cleaning

Playing older or damaged tapes may eventually cause video heads to become clogged.

Video Head Clog Sensor

During playback, this screen appears if clogging is detected.
To remove screen, press PLAY on the remote or DECK.

```
VIDEO HEADS MAY
NEED CLEANING
PLEASE INSERT HEAD
CLEANING CASSETTE
OR REFER TO MANUAL

END     :PLAY
```

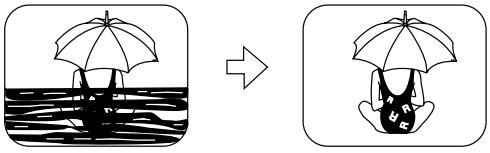
- **Use “dry” type head cleaning cassette only.** (Part No. NV-TCL30PT is recommended.)
- Follow cleaning tape instructions carefully. Excessive use of tape can shorten head life.

Cleaning DECK

Use a soft cloth or dusting attachment of a vacuum cleaner to remove dust from the ventilation holes on the back sides and bottom of the cabinet.
Plastic surfaces are easily scratched and can be marred by alcohol and various solvents. Avoid excessive use of oil-based furniture polishes since the materials used in the cabinet will accumulate more dust. We recommend using a non-abrasive, antistatic cleaner and polisher.

Features for a Quality Picture (VCR)

Digital Auto Picture
Automatically controls the video output signal for less noise depending on the tape condition.
Digital Auto Tracking
Continuously analyzes the signal and adjusts for optimum picture quality.
Manual Tracking Control
(to reduce picture noise)
Use during Playback and Slow Motion mode to reduce picture noise.
Press CH (TRACKING) ▲/▼ on the remote control or on DECK until the picture clears up.
To return to Auto Tracking, **press POWER** off, then on again a few seconds later.



V-Lock Control (to reduce picture jitter)
In Still mode, **CH** (TRACKING) ▲/▼ operate as a V-Lock control.

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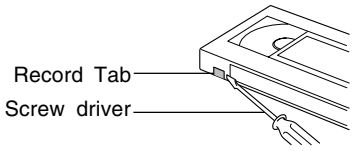
DECK & Cassette Information

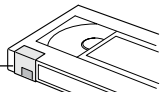
Prevent Accidental Tape Erasure

Break off the tab to prevent recording.



To record again

Cover the hole with cellophane tape.



Disc formats supported by this DECK

DECK can play back discs bearing any of the following marks:

Logo	Disc type
DVD RAM RAM4.7	**DVD-RAM (Version 1.1 of the Video Recording Format a unified video recording standard)**
DVD VIDEO DVD VIDEO	**DVD (DVD-Video)**
DVD R R4.7	**DVD-R (DVD-Video formatted discs [finalized])**
COMPACT disc DIGITAL VIDEO	**Video CD**
COMPACT disc DIGITAL AUDIO	**CD (CD-DA)**
COMPACT disc Rewritable COMPACT disc Recordable	**CD-R/CD-RW** **• CD-DA format** **• MP3/JPEG file and finalized.***

[Discs Played 8 cm (3″) or 12 cm (5″)]

***** A process that allows play on compatible equipment.

Discs which cannot be played

- DVD with Region No. other than "1" or "ALL"
- PAL discs, DVD-ROM, DVD-Audio, DVD-RW, DVD+R, DVD+RW, CD-ROM, CDV, CD-G, CVD, SVCD, SACD, CD-TEXT, Divx Video Disc, Photo-CD and MPEG4 Video Disc

Notes

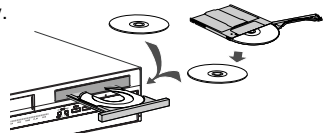
- **The digital audio content side of DualDiscs do not meet the technical specifications of the Compact Disc Digital Audio (CD-DA) format so may not play back in this unit.**
- Do not use irregularly shaped discs (e.g. heart-shaped), as these can damage the unit.
- **It may not be possible to play CD-R, CD-RW, DVD-R and DVD-RAM in all cases due to the type of disc or condition of the recording.**

DVD-RAM discs

DVD-RAM discs must meet the following conditions for this unit to be able to play them.

Type	• Non-cartridge discs • Discs that can be removed from their cartridges (TYPE 2 and 4)
Capacity	• 12 cm (5″) 9.4 GB (double-sided) and 4.7 GB (single-sided) • 8 cm (3″) 2.8 GB (double-sided)

- Remove TYPE 2 and 4 discs from their cartridges before use, then return them when you are finished. Read the instructions for the disc carefully.

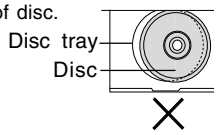


- Some parts of the disc, for example where one program ends and another begins, may not play smoothly.

Disc Handling

Handling precautions

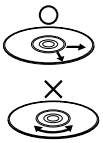
- Sticking a label on the disc may impair DVD-R playback.
- Do not attach sticker to discs. (Do not use discs with exposed adhesive from tape or left over peeled-off stickers.)
- Only hold disc by edges as shown below. Fingerprints, dirt and scratches can cause skipping and distortion.
- Do not write on label side of disc.
- Never use record cleaning sprays, benzine, thinner, static electricity prevention liquids, or any other solvent.



- Do not try to close disc tray when disc is not properly placed.

To clean disc surface

With a soft, damp (water only) cloth, gently wipe from the center hole to the outer edge as shown below. (Wiping in a circular pattern will scratch the surface.)



- DVD-RAM, DVD-R **:**
  Clean only with the DVD-RAM disc cleaner available. Never use cloths or cleaners for CDs etc.

If disc is brought from a cold to a warm environment, moisture may form on the disc

Wipe away moisture with a soft, dry, lint-free cloth before using disc. (See above.)

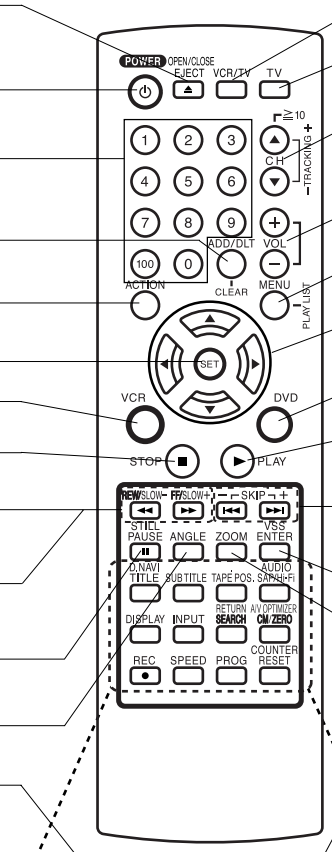
Improper disc storage

Discs could be damaged if stored or left in areas:

- exposed to direct sunlight.
- that are humid or dusty.
- near heat (i.e. heater, radiator, etc.).

Location of Controls

Remote Control **Bold**: **VCR Function** / ***Bold Italic***: ***VCR and DVD Functions***
Italic: *DVD Function* / Normal: Others



EJECT* / *OPEN / CLOSE*
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A/V OPTIMIZER
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PROGRAM
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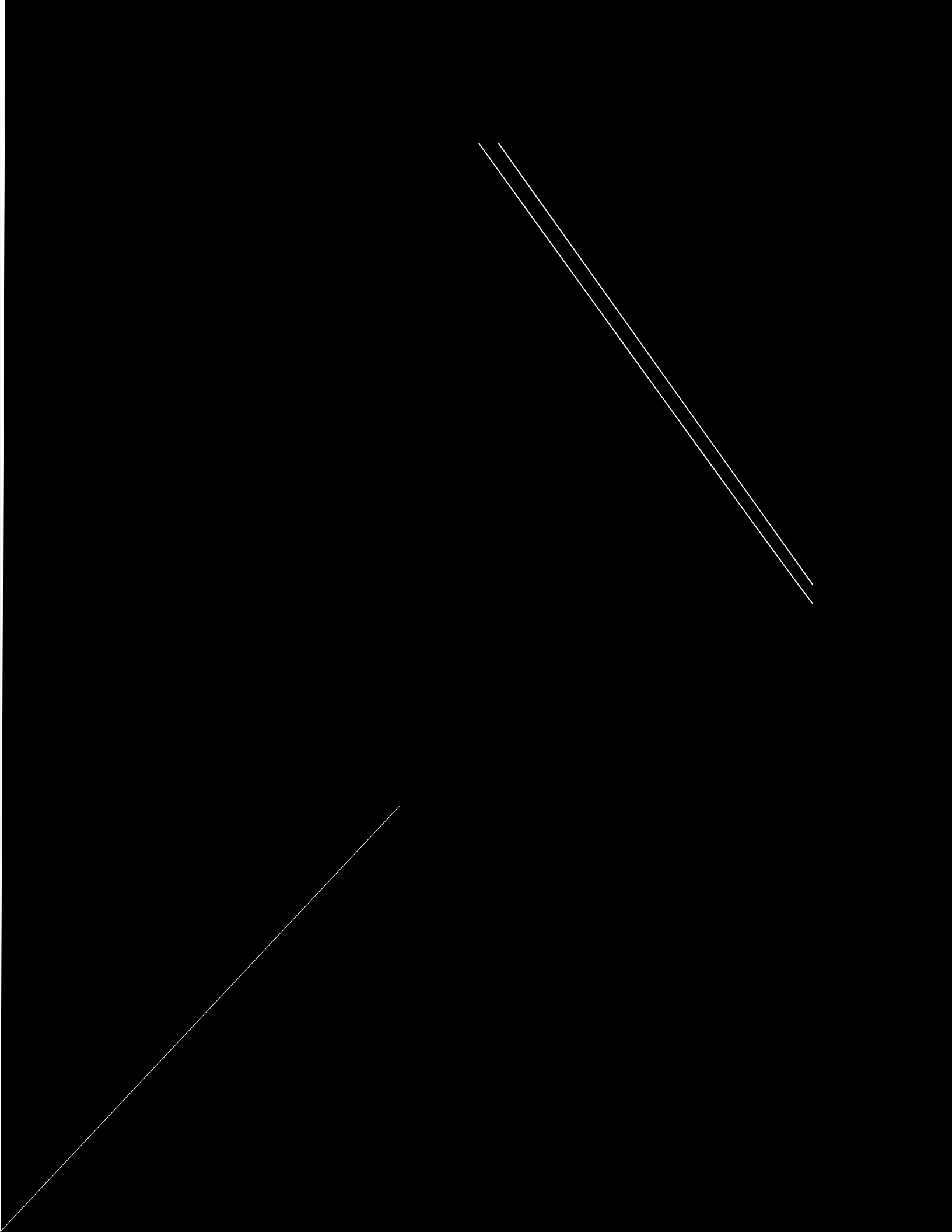
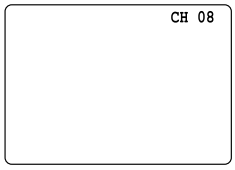
***EJECT button:** When this button is pressed in VCR mode, the tape is ejected.
This button is inoperative if pressed during recording.
If pressed in DVD mode, the disc tray opens or closes.



On Screen Displays / Light-up Indicators

On Screen Displays (VCR)

Function & Channel Displays



When a function button is pressed, e.g. PLAY, or you change channels, and also if a cassette is inserted, a 5-second display appears.

Blank Tape/ No Signal Indications

Whenever a blank section of a tape comes up in Play mode, or when the selected channel has no broadcast signal with Weak Signal Display Feature (p. 33) set to OFF, the TV screen will turn solid blue.

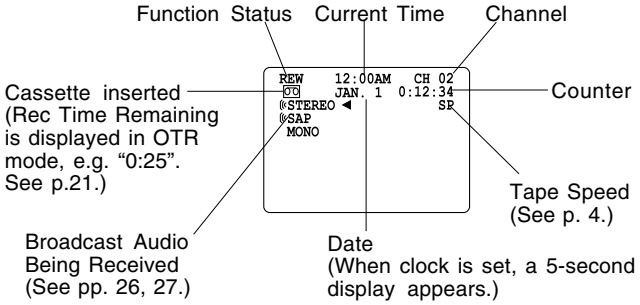
VCR Status & Clock Displays

To display or remove screen shown at right,

➛ press DISPLAY.

Note

- For on Screen Displays in DVD mode, see p. 44.

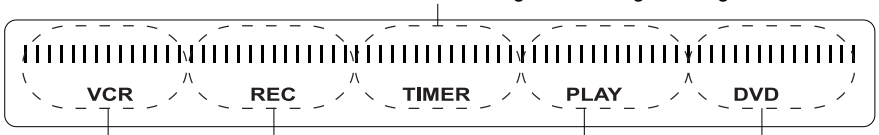


Light-up Indicators

Light-up indicators allow easy confirmation of current DECK function status.

Timer Indicator

Lights up when DECK is set for Timer Recording, or when One Touch Recording (OTR) is used. Flashes when Timer Recording is set, but a tape has not been inserted into DECK and when a power interruption occurs during Timer Programming.



VCR mode Indicator

Lights when output selection is VCR mode. Flashes in Auto Clock Set or Channel Auto Set.

VCR REC Indicator

Lights up during recording. Flashes in Rec. Pause mode.

PLAY Indicator

Lights during playback in either VCR mode or DVD mode. Flashes in Still, Frame by Frame, or Slow mode.

DVD mode Indicator

Lights when output selection is DVD mode.

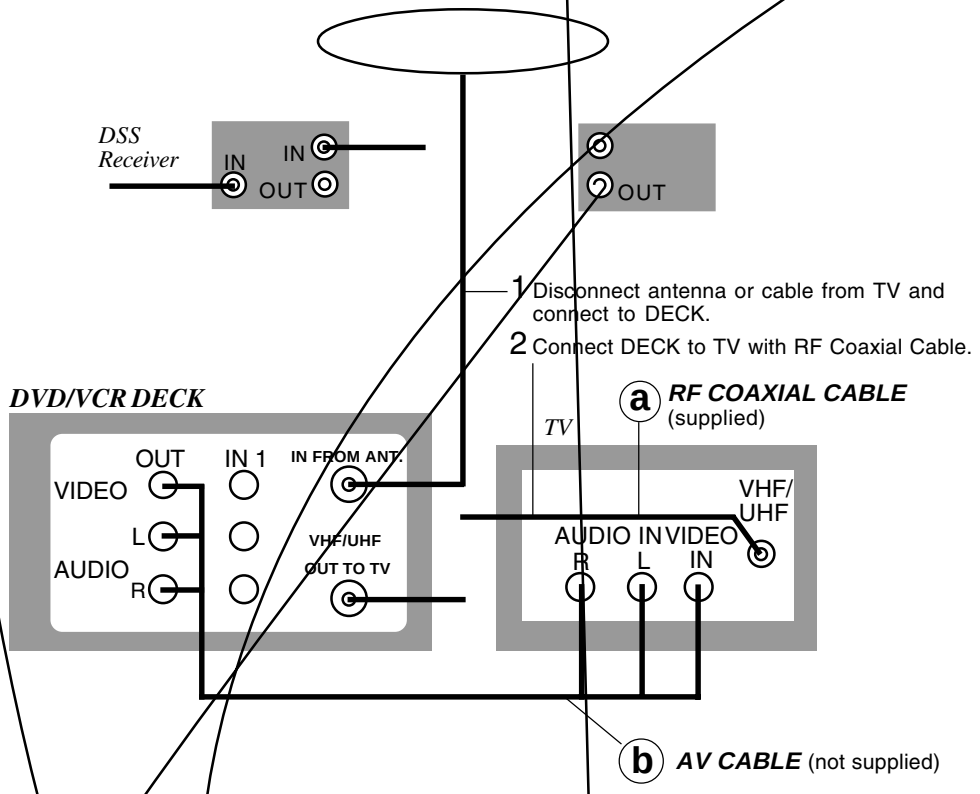
<Light-up combination example>

Light-up Indicator	Function Status	
VCR + PLAY	VCR playback in progress	[See p. 20]
VCR + REC	VCR recording in progress	[See p. 21]
VCR + TIMER	VCR timer setting in progress	[See pp. 24, 25]
VCR + TIMER + REC	VCR Timer Recording in progress	[See pp. 24, 25]
DVD + PLAY	DVD playback in progress	[See pp. 22, 23]
VCR ➛ REC ➛ TIMER ➛ PLAY	VCR fast forward in progress	[See p. 20]
PLAY ➛ TIMER ➛ REC ➛ VCR	VCR rewind in progress	[See p. 20]

Connections

Basic Connections

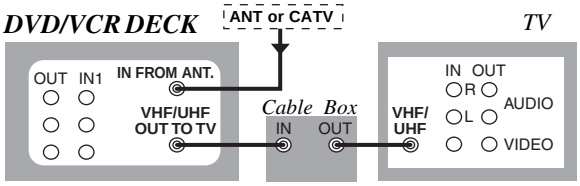
- **If your TV has AUDIO and VIDEO IN terminals, connect them to DECK for higher quality picture and sound.**
- You can enjoy stereo sound even if your TV is not stereo by connecting a stereo amplifier to DECK.
- Connect DECK and TV with an RF Coaxial Cable ⓐ (supplied) or an AV Cable ⓑ (not supplied) as shown in the figure below.



Note to CABLE system installer
This reminder is provided to call the CABLE system installer's attention to Article 820-40 of the NEC in USA (and to the Canadian Electrical Code in Canada) that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

Other Connections

■ With a Cable Box (DECK➡Cable Box➡TV)



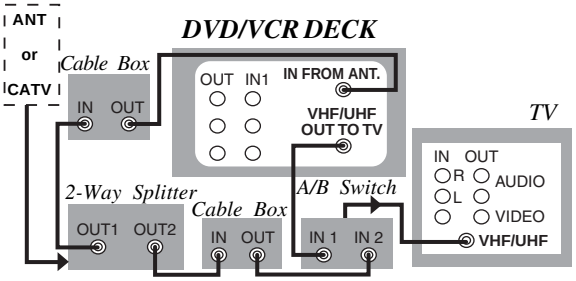
You Can

- view any (including scrambled) channel.
- use Remote Control to select channels without using Multi-brand control feature.

You Cannot

- record scrambled channels.

■ Connect With Two Cable Boxes



You Can

- record and view both scrambled and unscrambled channels if additional equipment is added. This connection requires: two converter boxes, an A/B switch, and a 2-way splitter.

You Cannot

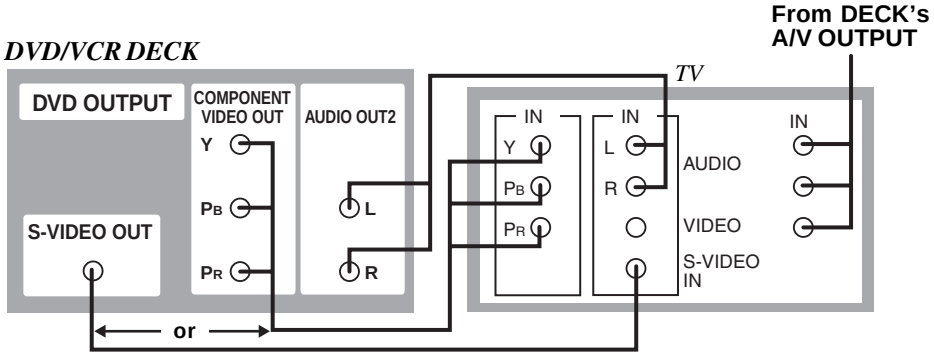
- view a channel other than the one selected for any type of recording.
- set a Timer recording of a channel unless you select it on the Cable Box.

Connections For DVD Only (enjoying higher picture quality)

① Connect AUDIO OUT2 (L, R) to the AUDIO IN (L, R) of the TV. (audio input for COMPONENT or S-VIDEO mode).
② If your TV has COMPONENT VIDEO INPUT, connect to COMPONENT VIDEO OUT. If your TV does not have COMPONENT VIDEO INPUT but has S-VIDEO INPUT, connect to S-VIDEO OUT.
③ When in DVD mode, set your TV to either COMPONENT VIDEO IN or S-VIDEO IN.

Notes

- **You can watch DVDs through the S-VIDEO or COMPONENT VIDEO, VHF/UHF OUT TO TV, and VIDEO OUT connections to your TV. The VCR and TUNER pictures are available only from the VIDEO OUT and VHF/UHF OUT TO TV connections to your TV.**
- PROG functions on the remote are not available when using S-VIDEO OUT and COMPONENT Video Output. Please set TV to either RF INPUT or VIDEO INPUT, and then press PROG.
- TV must have capability to accept and display a progressive scan signal to use PROGRESSIVE mode. Consult your TV operating instructions.



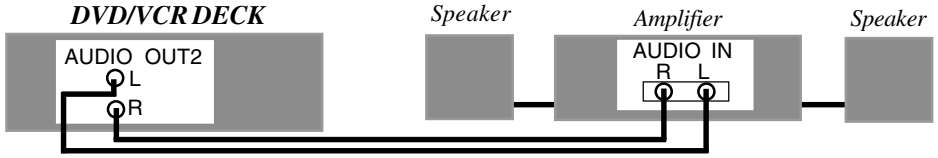
Connections (continued)

Audio Connections

Ready Checklist

- ☐ Turn down the volume, then turn DECK, as well as other equipment to be connected, off before proceeding with connection.
- ☐ Do not block ventilation holes of any of the equipment and arrange them so that air can circulate freely.
- ☐ Read through the instructions before connecting other equipment.
- ☐ Ensure that you observe the color coding when connecting audio and video cables.

■ Connecting Amplifier (2ch stereo system) [Analog connection]



Enjoying digital audio output from the digital audio output connector

Notes on audio output from the optical digital audio output connector

Disc	Sound recording format	Optical digital audio output from connector
DVD-Video	Dolby Digital	Dolby Digital bitstream (1 - 5.1 ch) or PCM (48 kHz sampling/16 bit only)*1
	Linear PCM (48/96 kHz 16/20/24 bit)	Linear PCM (2 ch) (48 kHz sampling/16 bit only)*2
	DTS	Bitstream or PCM (48 kHz sampling/16 bit only)*1
DVD-RAM	Dolby Digital	Dolby Digital bitstream (1 - 5.1 ch) or PCM (48 kHz sampling/16 bit only)
	Linear PCM(48 kHz/16 bit)	Linear PCM (2 ch)
Video CD	MPEG1	PCM (44.1 kHz sampling)
CD	Linear PCM	Linear PCM (44.1 kHz sampling)
MP3	MP3	PCM (It depends on the MP3 file)

*1 The type of audio output from the connector can be selected by the Settings for DVD Operation. (See p. 53.)

*2 When "LPCM(DVD)" is set to OFF in the DVD Main Menu, only 48 kHz sampling/16 bit is ouput. When set to ON, sampling of sound quality greater than 48 kHz/16 bit is reduced to 48 kHz/16 bit. (See page 53.)

For your reference:

- Dolby Digital is a digital sound compression technique developed by the Dolby Laboratories Licensing Corporation. Supporting 5.1-channel surround sound, as well as stereo (2-channel) sound, this technique enables a large quantity of sound data to be efficiently recorded on a disc.
- Linear PCM is a signal recording format used in CDs. While CDs are recorded in 44.1 kHz/16 bit, DVDs are recorded in 48 kHz/16 bit up to 96 kHz/24 bit.
- If you have a Dolby Pro Logic Surround decoder, you will obtain the full benefit of Pro Logic from the same DVD movies that provide full 5.1 channel Dolby Digital soundtracks, as well as from titles with the Dolby Surround mark. For information on Panasonic or Technics Dolby Pro Logic Surround Sound Decoders please contact your local dealer.

Manufactured under license from Digital Theater Systems, Inc. US Pat. No's. 5,451,942, 5,956,674, 5,974,380, 5,978,762, 6,487,535 and other US. and world-wide patents issued and pending. "DTS" and "DTS 2.0 + Digital Out" are trademarks of Digital Theater Systems, Inc.
Copyright 1996, 2003 Digital Theater Systems, Inc. All Rights Reserved.

Manufactured under license from Dolby Laboratories.
Dolby and the double-D symbol are trademarks of Dolby Laboratories.

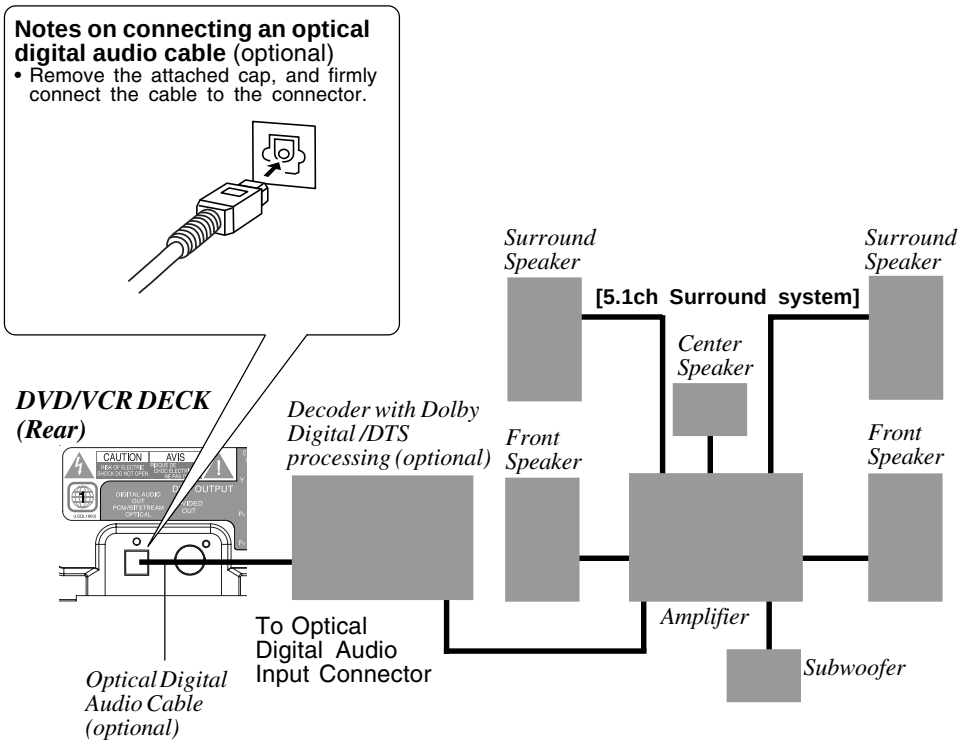
■ Connecting Amplifier (5.1 ch Surround system) [Digital connection]

DECK ➡ Dolby Digital Decoder ➡ Amplifier ➡ Speaker

or

DECK ➡ DTS (Digital Theater Systems) **Decoder ➡ Amplifier ➡ Speaker**

When DVDs recorded in Dolby Digital or DTS are played, Dolby Digital bitstream or DTS bitstream is output from the DECK OPTICAL digital audio output connector. When DECK is connected to a Dolby Digital decoder or DTS decoder, you can enjoy theater-quality audio in your home. [An optical digital audio cable (optional) is required when an optional Dolby Digital decoder or DTS decoder is used.]



Caution for optical digital audio output connector:

- **When connecting an amplifier (with an Optical Digital Input Connector) which does not contain the Dolby Digital or DTS decoder, be sure to select "PCM" at "Dolby Digital" and "PCM" at "dts" in Settings for DVD Operation "Audio Output" (see p. 53).**
  Otherwise, any attempt to play DVDs may cause such a high level of noise that it may be harmful to your ears and damage your speakers.
- **When a Dolby Digital/DTS decoder is connected, please select "Bitstream" at "dts" or "Dolby Digital" in Settings for DVD Operation "Audio Output".**
  If "PCM" is selected, there will be stereo sound. (See p. 53.)
- **Video CDs and CDs can be played as usual.**

Note

- Some DTS decoders which do not support DVD-DTS interface may not work properly with DECK.

Before doing Initial Setup

1

2 See connections ⓐ RF Coaxial Cable Connection and ⓑ AV Cable Connection on page 12.
<RF Coaxial Cable Connection>
⇨Set **TV** to **channel 3.**
<AV Cable Connection>
⇨Set **TV** to **VIDEO.**

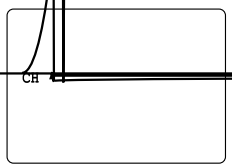
3 **[DECK ➔ TV]**
• Go to "Initial Setup (Ready to Play)." (See below.)
[Cable Box ➔ DECK ➔ TV], [DSS ➔ DECK ➔ TV]
• Turn on Cable Box and set it to your Public Broadcasting Station (PBS) channel in your time zone.
• If you use a DSS Receiver, it must be turned off.

Initial Setup (Ready to Play)

1 **Press VCR on remote for VCR mode.**

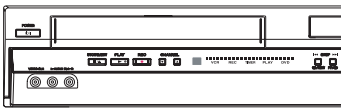
2 **Plug DECK Power Cord into AC wall outlet. DECK comes on and auto channel and clock set starts.**
• If screen below does not appear, check DECK - TV connection and, if TV is tuned to channel 3, try switching it to channel 4.
• To change VCR's output channel, please see "VCR's Output Channel" on page 19.

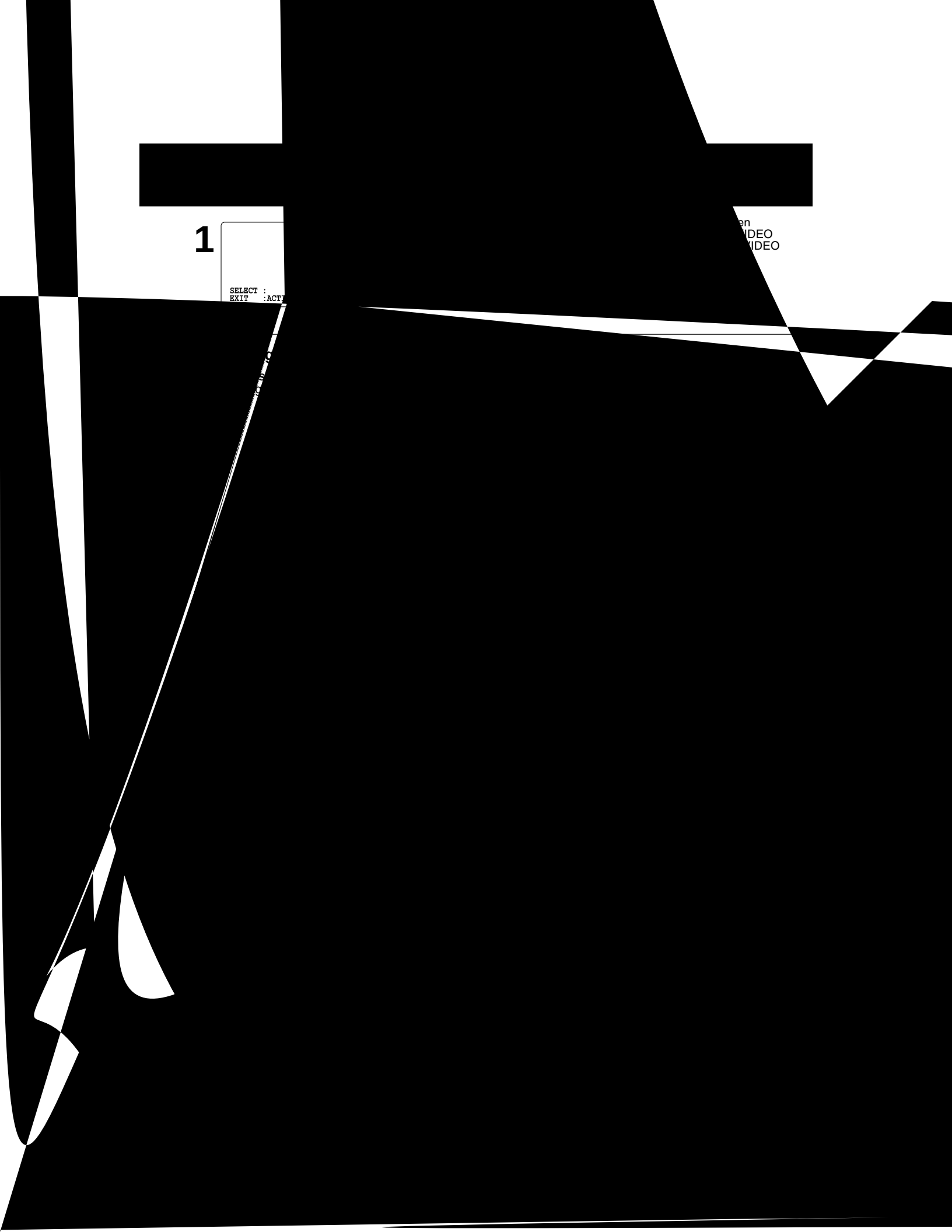
Plug VCR Power plug into an AC wall outlet.



• Function buttons are void during Initial Setup.
• To eject a tape during Auto Set, press EJECT on remote or STOP/EJECT twice on DECK.
Then make settings manually. (See p. 18.)
• If Auto Clock Set takes more than 30 minutes, press STOP and perform settings manually. (See p. 18.)

Continued on next page...




1
SELECT :
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IDEO

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button on the
n.

R's Output
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▲▼ to select
S OUTPUT
nd **press SET**.

ys

Playback/ Record on a Tape

Ready Checklist

- ☐ All connections are made. (pp. 12 ~ 15)
- ☐ TV and DECK are plugged in.
- ☐ TV is on and tuned to CH 3, 4, or VIDEO.
- ☐ Remote is in VCR mode. (Press VCR.)
  (➛ The VCR mode Light-up Indicator lights on DECK.)

Playback a Tape

1 **Insert a tape.**
- DECK power comes on. If Auto VCR/TV (see p. 34) is set to "OFF," press VCR/TV on the remote for VCR mode.

2 **Press PLAY*** to play a tape.
- If tape has no rec. tab (p. 6), auto play begins.
- The PLAY Light-up Indicator lights on DECK.

Special Features During Play

■ **Forward/Reverse Scene Search**
- ➛ **Press FF/SLOW+** or **REW/SLOW-**.
- ➛ **Press PLAY** to release.
  After search has begun, each additional press of **FF/SLOW+** or **REW/SLOW-** changes speed as shown below.
  [SP] : Approx. 5× ↔ Approx. 7×
  [SLP] : Approx. 11× ↔ Approx. 21×

Notes
- Picture interruption may occur with some TVs.
- FF and REW search speed may vary depending on current tape position.
- After 10 minutes in search mode, VCR returns to Play mode to protect the tape and the video heads.

■ **Still (Freeze) Picture**
- ➛ **Press PAUSE/STILL**.
- ➛ **Press PLAY** to release.

■ **Frame by Frame Picture**
- ➛ **Press PAUSE/STILL** in Still mode.
- ➛ **Press PLAY** to release.

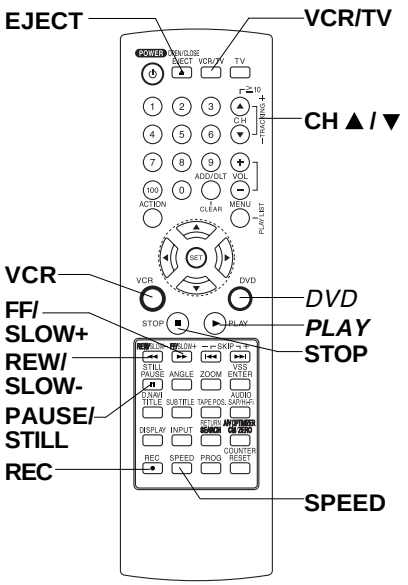
■ **Slow Motion Picture**
- ➛ **Press FF/SLOW+** (increase speed) or **REW/SLOW-** (decrease speed) in Still mode.
- ➛ **Press PLAY** to release.

3 **Press STOP** to stop a tape.

■ **Press REW/SLOW-** or **FF/SLOW+** in Stop mode to rewind or fast forward a tape.

■ **Press EJECT** on remote, or **STOP/EJECT** on DECK to eject a tape.

S-VHS Quasi Playback (SQPB)
- Tapes recorded in S-VHS can easily be played back using the same procedure as with VHS tapes.
- This VCR automatically distinguishes between S-VHS and VHS tapes and plays them back.
- Picture quality will be normal VHS, not S-VHS and picture noise may occur. (Color loss or picture disruption during Search, Pause, etc. is normal.)
- S-VHS recording is not possible.



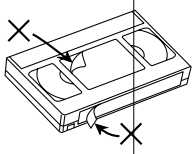
Notes
- These features work best in SP or SLP mode.
- The sound will be muted.
- To reduce picture noise, see "Manual Tracking Control" on page 4.
- After 3 minutes in Still or Slow mode, VCR stops to protect the tape and the video heads.

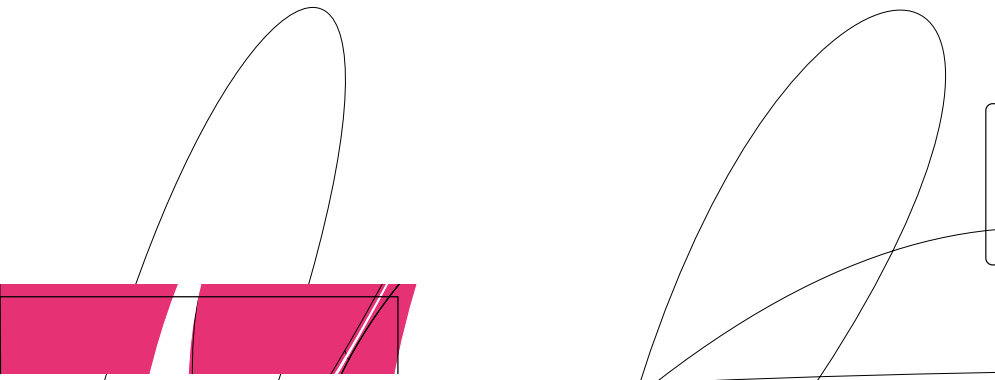
Playback using DECK buttons

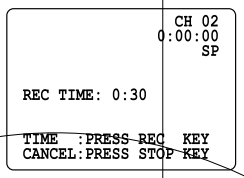
2 Press PLAY. 1 Insert a tape.

Light-up Indicators

■ Press STOP/EJECT to stop and/ or eject a tape.



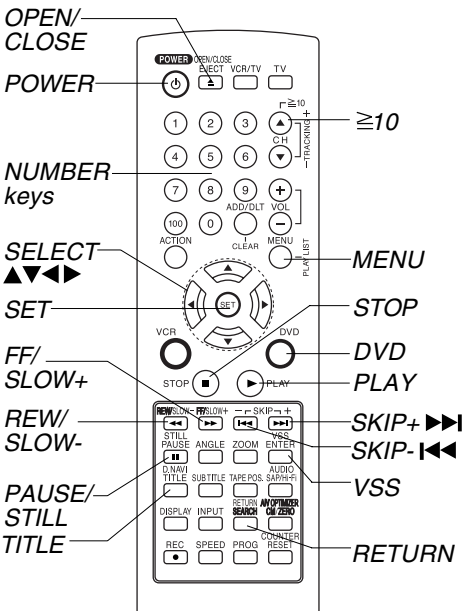



CH 02
0:00:00
SP
REC TIME: 0:30
TIME :PRESS REC KEY
CANCEL:PRESS STOP KEY

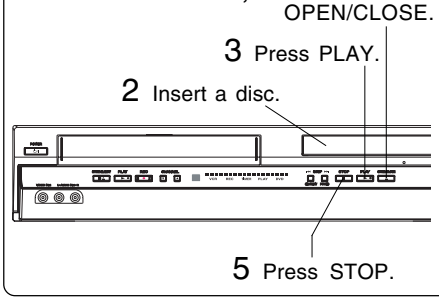
Basic DVD Operation

Ready Checklist

☐All connections are made. (pp. 12 ~ 15)
☐DECK is plugged in.
☐If DECK is connected to an audio amplifier, turn the stereo system's power on.



Operation using DECK buttons

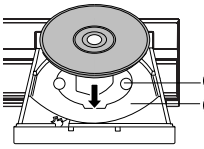


*1 Interactive DVD...
May include multiple camera angles, stories, etc.

*2 Video CD with playback control...
Particular scenes or information can be interactively selected from a menu that appears on the screen.

1 **Press *DVD*** to select DVD mode.
- The DVD mode Light-up Indicator lights on DECK.
- If a disc is already inserted, go to step 3. (Depending on the disc, playback may start automatically.)

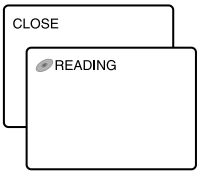
2 **Press *OPEN/CLOSE* *,** and then place a disc into the disc tray.



- Hold disc by its edges only (p. 6) with printed side up and use guides to place into tray. Use ❶ 8 cm (3″) or ❷ 12 cm (5″) disc.

DVD-RAM ➡ see p. 42

3 **Press *PLAY*** to start playing.
Disc tray closes automatically.

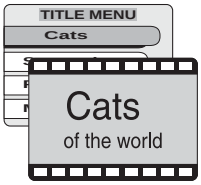


- The PLAY Light-up Indicator lights on DECK.
- You may also close tray by **pressing *OPEN/CLOSE***.
- Data reading time differs with each disc.

<Example1>

If an interactive DVD*1 or a Video CD with playback control*2 is used and TITLE MENU appears, go to step 4.

4



<Example2>

Press ▲▼◀▶ or ***NUMBER keys*** (see below) to select title, and **press *SET*** or ***PLAY*** to start playing.
- Pressing *SET* or *PLAY* is not necessary when using *NUMBER keys*.

Using NUMBER keys starts play automatically.
The number of available titles varies with each disc.

<Input Example>
1 digit number 1 : 1
2 digit number 12 : ≧10 ➛ 1 ➛ 2

Press *SKIP+* ▶▶| or *SKIP-* |◀◀ to go to next or previous menu screen.
- SKIP function not available with all discs. Please refer to disc jacket for operation information.

To return to menu (play stops)
Press *TITLE*, *MENU*, or ***RETURN***. (DVD)
Press *RETURN*. (Video CD)

5 **Press *STOP*** to stop playing.

6 **Press *OPEN/CLOSE*** to eject the disc.

*__Important:__ If a remote control button does not work when pressed, press the DVD button on the remote and try the button again.

■ Forward/Reverse Scene Search

Press *FF/SLOW+* or ***REW/SLOW-*** during play.
Press *PLAY* to release.

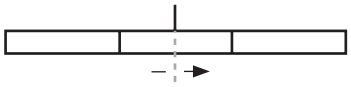
- Starting forward/reverse search during play started from menu on Video CDs may recall menu.
- Search speed, slow at first, increases with each additional press of the button up to 5 levels.

■ Forward/Reverse Chapter/Track Skip

Press *SKIP+* ▶▶| or ***SKIP-* |◀◀** during play.
Each press skips a chapter (DVD), track (Video CD/CD) or Program/Play List/Marker (DVD-RAM).

[DVD / Video CD / CD]

- **Pressing *SKIP-* |◀◀** once midway through a chapter/track returns to the start of that chapter/track. Each additional press skips back one chapter/track.
- **Pressing *SKIP* ▶▶|** or **|◀◀** during play started from menu on Video CDs may recall menu.



[DVD-RAM]

- **Pressing *SKIP-* |◀◀** once midway through a program/play list returns to the start of that program/play list. Each additional press skips back one program/play list.

■ Still Picture or Pause

Press *PAUSE/STILL* during play.
Press *PLAY* to release.

- **DVD/Video CD :** DECK will enter still picture mode.
- **CD :** DECK will enter pause mode.

■ Frame by Frame Picture (DVD/Video CD)

Press *PAUSE/STILL* in still mode.
Press *PLAY* to release.

- Each press advances picture one frame.
- Hold button down for consecutive frame advance.
- Whether pictures are advanced by "FRAME" or "FIELD" is selected automatically. (See p. 54.)

■ Slow Motion Picture (DVD/Video CD)

Press *FF/SLOW+* or ***REW/SLOW-*** in still mode.
Press *PLAY* to release.

- Slow motion speed, slow at first, is increased with each additional press of the button up to 5 levels.
- Reverse slow motion is not available for Video CDs.

Auto-Power Off Function

Power turns off after DECK has been in Stop mode (DVD) for about 5 minutes.

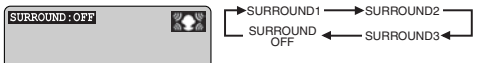
- When ⃠ appears on the screen while a button is being operated, it means that the corresponding operation is prohibited by DECK or the disc.

V.S.S. (Virtual Surround Sound)

Enjoy a surround-like effect if you are using two front speakers only. The effect is broadened and sound seems to come from virtual speakers on either side if the disc has surround signals recorded on it.

Press *VSS* in DVD mode.

- The Surround sound effect can be changed by pressing VSS repeatedly as shown by the figure below.



- Surround sound effect is available in DVD mode only.
- Turn off the surround effects on the other equipment.
- V.S.S. will not work, or will have less effect, with some discs.
- Turn V.S.S. off if it causes distortion.
- Sound will only come from the two front speakers if V.S.S. is on.

Resume Function

DECK memorizes the point where STOP is pressed (**STOP** ▶ is flashing on screen).
Press *PLAY* to resume play from this point.
Pressing *STOP* again or opening the tray cancels RESUME, however, RESUME is not canceled when power is turned off and on.

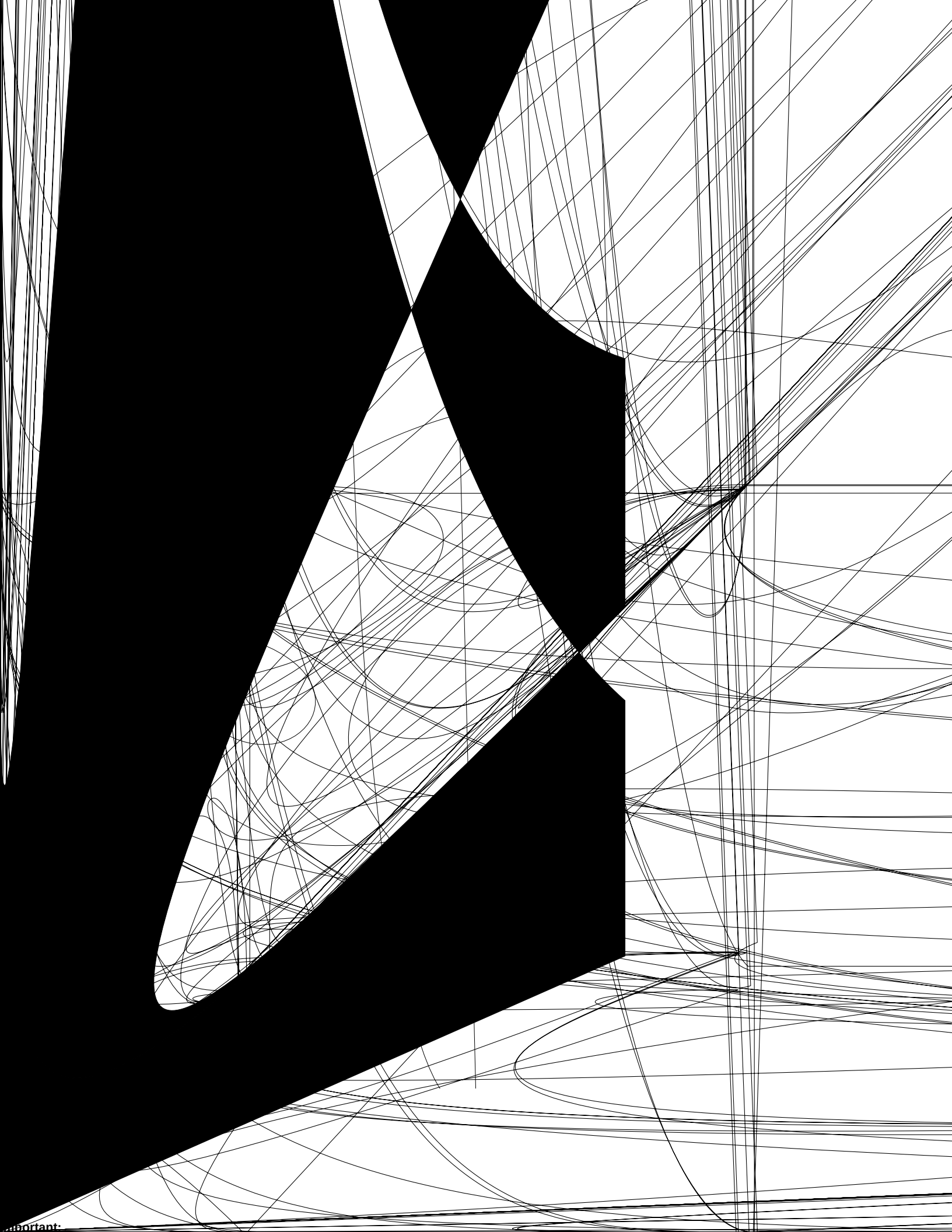
- RESUME works only with discs for which elapsed play time is displayed during play.
- When a DVD-RAM still picture is played back, the counter will not be displayed, however RESUME will function.

Enjoy Video CDs featuring playback control without using menus (Video CDs only)

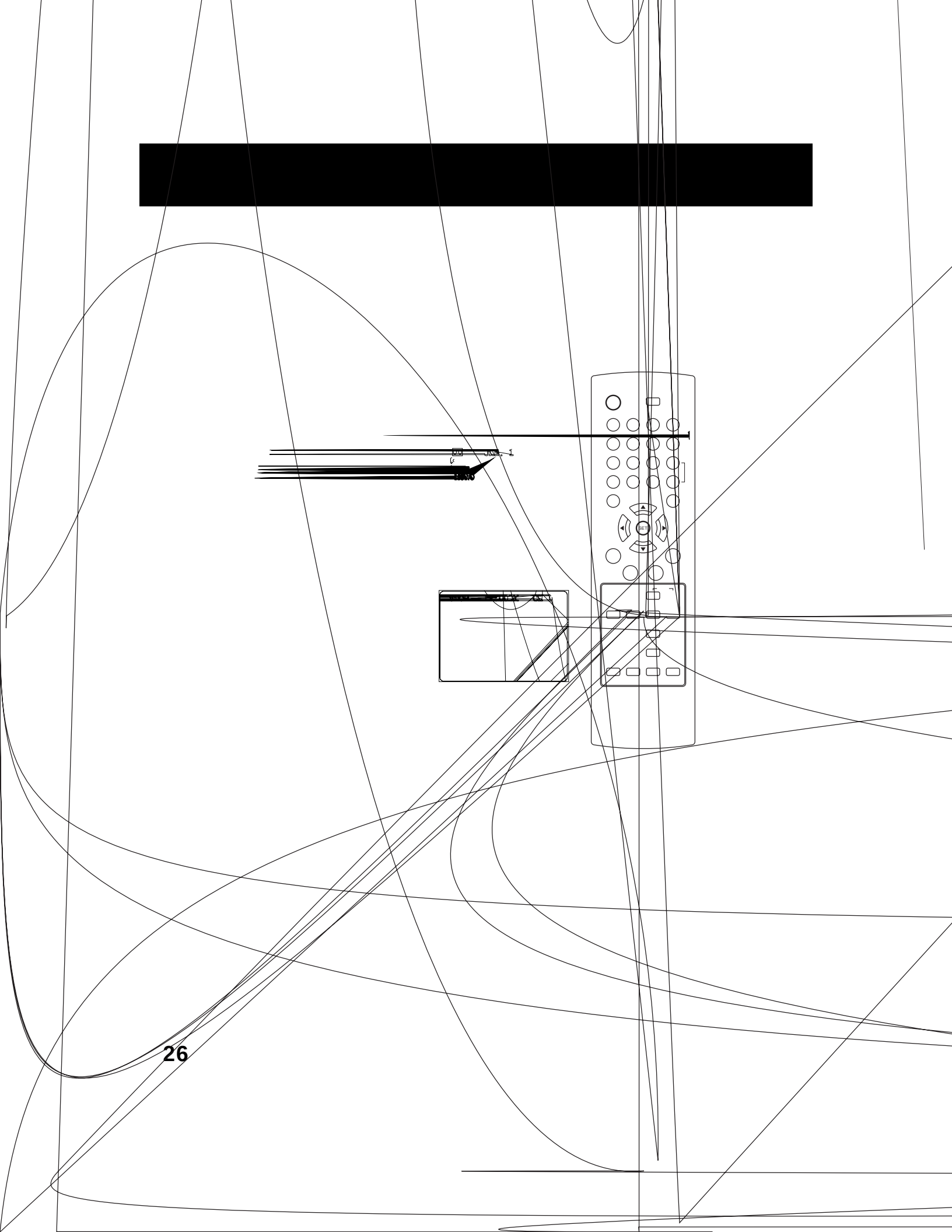
1. Do steps 1-4 (previous page).
   When menu appears, **press *STOP***.
2. **Press *NUMBER keys*** to select desired track (play begins).
   - Check disc for track numbers.
   - Press "1" to start at beginning of disc.

To Resume Menu use,
Press *STOP* and **press *PLAY***, then the menu will be displayed.
Now, go to step 4 (previous page).

- Please read the disc jacket for operation information.
- If a single sided disc is placed in upside down, "THIS TYPE OF DISC CANNOT BE PLAYED. PLEASE INSERT A DIFFERENT DISC" is displayed.
- Remove disc and press DECK POWER off when not in use.
- Disc continues to rotate with menu displayed even after play is done. Press STOP to clear menu display when finished with menu.



Important:



[redacted]

ɾ when pressed,
d try the button again.

Multi-Brand Control Feature

Multi-Brand Control Setup

The Remote Control can be set to control certain Televisions.

1 **Find your TV Brand Code Number on the following page.**

2 **Set up for TV control,**
➛ **hold down TV button,**
➛ **enter code with NUMBER keys.**

3 **Confirm code entry,**
➛ **press POWER** to turn selected unit on or off.
• See table below for controllable functions in each mode.

Notes
- Repeat setup after remote battery replacement.
- Remote will not control every TV made by the manufacturer listed. If you get no response, your particular unit cannot be controlled.
  There are NO additional codes for the products listed. If your product is not listed, then the remote is not compatible with that product.

Using Multi-Brand Control

After remote is set up, you can select VCR, DVD, or TV for the desired function.

Press VCR, *DVD*, or TV on the remote.
(Table below shows available remote buttons for each mode.)

Unit / Mode	DVD/VCR	TV
DVD VCR	All	VOL +/-
TV	**EJECT**/*OPEN/CLOSE***, ***DISPLAY***, ***PLAY***, ***STOP***, ***FF/SLOW+***, ***REW/SLOW-***, **VCR/TV**, **PAUSE/*STILL***, *SKIP*, ***AUDIO***, **CM/ZERO**, **SPEED, REC**, **TAPE POSITION**, *PAGE*, **COUNTER RESET**	POWER, INPUT, NUMBER keys, ENTER, CH ▲/▼, VOL +/-

*** Bold : VCR Function**
Italic : DVD Function
Bold Italic : VCR and DVD Functions
Normal : TV

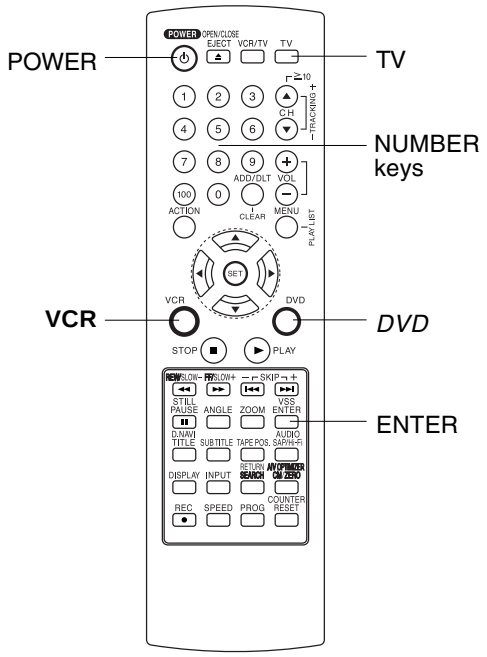
Notes
- Not all functions listed may be controllable.
- In TV mode, it may be necessary to press ENTER after pressing NUMBER keys for channel selection.

TV Brand Code Numbers

Panasonic 01, 02
Quasar 01, 02
RCA 03
GE 03
Zenith 04
Magnavox 05
Sylvania 05
Sharp 06, 07
Sony 08
Toshiba 09
Sanyo 10
Fisher 10
JVC 11
Hitachi 12
Mitsubishi 07, 13
Samsung 14
Gold Star 15, 16, 17

Important Notes

- Some manufacturers use several codes for one brand. If the first code entered fails, try the next one listed.
- Some Televisions require you to turn on the power manually.



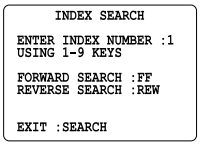
Tape Operation

Search System

For each recording, an invisible index mark is placed on the tape. A program index and information are also included for timer recordings. These marks are used to access or scan recordings.

Index Search

1

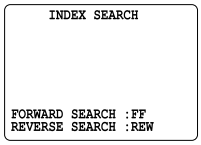


Press SEARCH* to display SEARCH in Stop or Play mode, and then **press NUMBER keys** to select recording number.

- To calculate number, see below.

Press FF/SLOW+ or **REW/SLOW-** on the remote to start search.

2

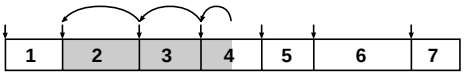


Play begins at search end.
To search forward or back 1 index, **press FF/SLOW+ or REW/SLOW-** on the remote while screen at left is displayed (10 sec.).

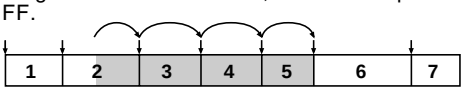
- To cancel, **press PLAY** or **STOP**.

■ To Calculate Index Number

Example 1:
To go to rec. 2 from rec. 4, enter 3 and press REW.



Example 2:
To go to rec. 6 from rec. 2, enter 4 and press FF.



NOTE: ↓ indicates start points of each recording.

Note

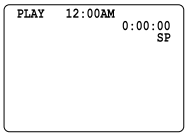
- If Index Search is started very close to an index mark, that index mark may not be counted in the search.

Zero Search

To quickly return to a specified tape location.

1 **Press DISPLAY** during play to display Counter.

2

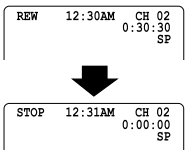


Press COUNTER RESET on remote at desired position to reset to "0:00:00".

3 Continue to record, playback etc.

4 **Press STOP.**

5



Press CM/ZERO in Stop mode to start Zero Search.

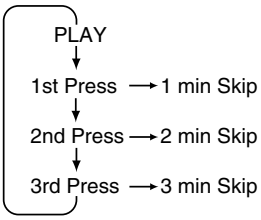
- DECK will go into FF or REW mode and stop at the last point the Counter was set to 0:00:00.

Commercial Skip

DECK fast forwards (skips) over 1, 2, or 3 minutes of recorded tape as desired.

1 **Press CM/ZERO** in Play mode.

- The skip time can be changed by pressing CM/ZERO repeatedly as shown by the figure below.



- No indication appears on-screen.

*__Important:__ If a remote control button does not work when pressed, press the VCR button on the remote and try the button again.

ing over and over.

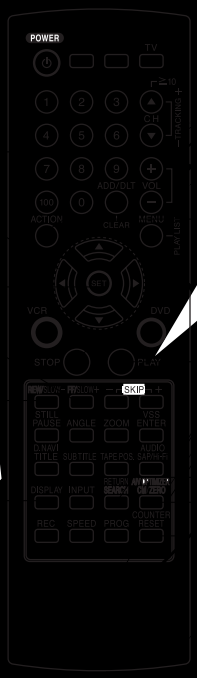
ON
MENU.

MENU
UP VCR
UP CLOCK

SELECT :▲▼ SET:SET
EXIT :ACTION

Press ▲▼
to select
VCR,"
SET

3



NUMBER keys

SELECT ▲▼

SET

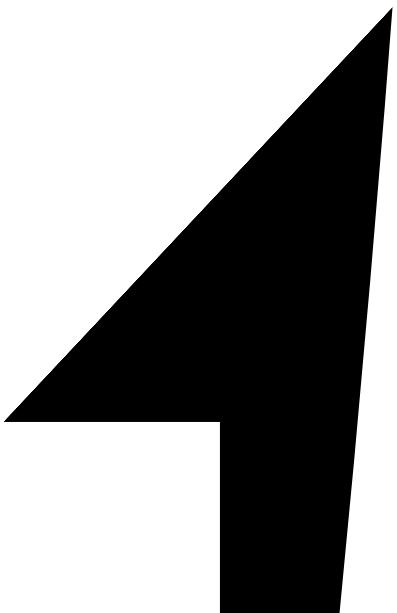
FF/ SLOW+

REW/ SLOW-

DISPLAY

ACTION

Note



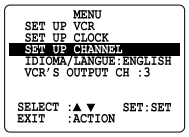
Special VCR Features

Weak Signal Display Feature

When “ON,” picture is displayed regardless of signal strength.

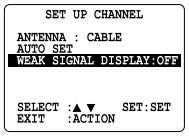
1 **Press ACTION**
to display MENU.

2



Press ▲▼
to select “SET UP CHANNEL,” and
press SET.

3



Press ▲▼
to select “WEAK SIGNAL DISPLAY,” and
press SET
to set “ON” or “OFF.”

- ON: Picture is displayed regardless of signal condition, and may not always be clearly visible.
  OFF: Screen turns solid blue when signal is weak or non-existent.
- Selecting ON has no effect on connected equipment with blue back feature.

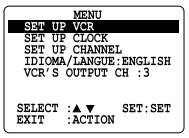
4 **Press ACTION**
to return to normal screen.

Auto Shut-Off Feature

The power shuts off at a preset time.

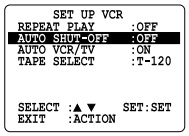
1 **Press ACTION**
to display MENU.

2



Press ▲▼
to select “SET UP VCR,” and
press SET.

3



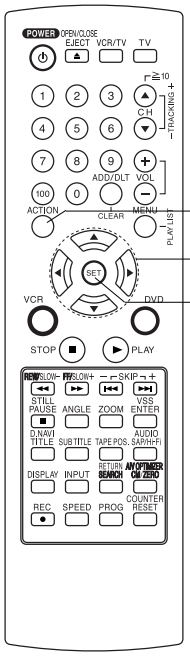
Press ▲▼
to select “AUTO SHUT-OFF.”
Press SET repeatedly to change shut-off time as shown below.

OFF → 2 Hours → 4 Hours → 6 Hours

4 **Press ACTION**
to return to normal screen.

Note

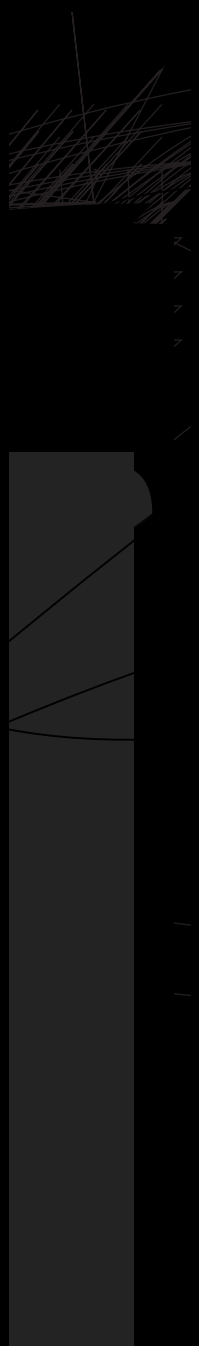
- The shut-off countdown will not function during Play or Record.



ACTION

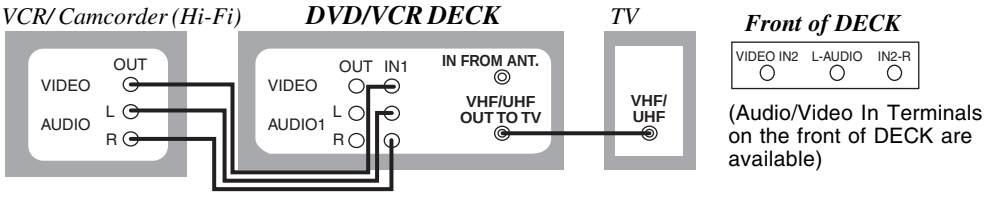
SELECT ▲▼

SET



Copying Your Tapes (Dubbing)

Connection



Front of DECK

(Audio/Video In Terminals on the front of DECK are available)

① Connect VIDEO OUT terminal on Playing VCR to VIDEO IN terminal on DECK. To monitor the dubbing, also connect TV as shown.

② Connect "L" and "R" AUDIO OUT terminals on Playing VCR to "L" and "R" AUDIO IN terminals on DECK.

In place of Playing VCR, you can use other equipment, such as a Camcorder. Simply connect the unit's Audio/Video outputs to DECK.

	Playing (Source) VCR	Recording (Editing) DECK
1	Insert a pre-recorded tape.	Insert a blank tape with record tab.
2	———	**Press INPUT** to set DECK Input mode to LINE for Video Input. (See "Selecting the Input Mode" below.)
3	**Press PLAY**, then **PAUSE** immediately to enter PLAY/PAUSE mode.	**Press REC**, then **STILL/PAUSE** immediately to enter REC/PAUSE mode.
	The operation of steps 4 and 5 must be done on the playing and recording VCRs at the same time.	
4	**Press PLAY** to start dubbing. Playing VCR starts playback.	**Press STILL/PAUSE** to start dubbing. DECK starts recording.
5	**Press STOP** to stop dubbing.	**Press STOP** to stop dubbing.

■ **To Monitor Dubbing on TV**

1 Turn TV on and tune to the Recording VCR channel (CH 3 or CH 4).

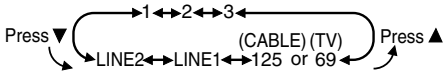
2 If Auto VCR/TV (see p. 34) is set to "OFF," press VCR/TV on the remote for VCR mode.

Note • Dubbing tapes protected with Copy Guard will result in poor quality recordings.

■ **Selecting the Input Mode**

Method 1: **Press INPUT** repeatedly.
Channel Number ➔ LINE1 ➔ LINE2

Method 2: **Press CH ▲/▼**.
Display will change as below.



• LINE1: For rear audio/video connection.
LINE2: For front audio/video connection.

Caution:
- **Unauthorized exchanging and/or copying of copyrighted recordings may be copyright infringement.**
- **Please note that some tapes cannot be dubbed on DECK. Also, it is not possible to dub DVD/ Video CD/ CD to VHS tapes using DECK.**
- **When ⃠ appears on the screen while a button is being operated, it means that the corresponding operation is prohibited by DECK or the disc.**

AUDIO:1 ENG
Dolby Digital 3/2.1ch

AUDIO:3 ESP
Dolby Digital 3/2.1ch
Hola
SELECT :AUDIO

Disc Operation (continued)

Ready Checklist

☐ DECK is in DVD mode, press DVD.
☐ Video CD or CD is inserted.

Program Play (Video CD/CD only)

You can program specific tracks and order of play.

1 **Press *ACTION**** to display DVD MAIN MENU.

2 **Press ▲▼** to select "PLAY MODE," and **press *SET*** to display.

3

Press ▲▼ to select "PROGRAM PLAY," and **press *SET*** to display.

4 **Press ▲▼◀▶** to select a track number (Track numbers on disc are displayed.), and **press *SET.***

- Repeat step 4 to select another track.
- The selected track is added on the right side.

5

Press ▲▼◀▶ to select "START," and **press *SET*** to start play of programs in the sequence selected.

- To cancel, **press *STOP*** during play, then **press *CLEAR***.

CLEAR
ACTION
SELECT ▲▼◀▶
SET
STOP
DISPLAY

*__Important:__ If a remote control button does not work when pressed, press the DVD button on the remote and try the button again.

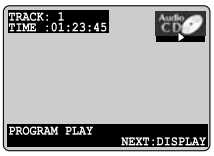
Notes

- Up to 16 tracks can be programmed.
- "◀ " or " ▶" (depending on disc) indicates additional PROGRAM PLAY screen. Press ▲▼◀ ▶ for next or previous screen.
- **To clear the last programmed track**
  Press ▲▼◀ ▶ to move to "CLEAR LAST" and press *SET*. (Pressing *CLEAR* also clears.)
- **To clear all programs**
  Press ▲▼◀ ▶ to move to "CLEAR ALL" and press *SET*. (Programs are also cleared when the power is turned off or the disc is removed.)

Program Repeat Play (Video CD/CD only)

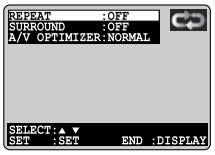
1 Do operation steps **1** through **5** on the previous page.

2 **Press *DISPLAY*** to display Disc Information screen.
(Disc Information Screen)

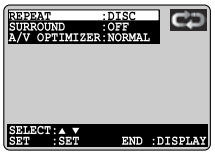


3 **Press *DISPLAY*** to display DECK Information screen.

4 **Press *SET*** to enter Select mode.
(DECK Information Screen)



5 **Press ▲▼** to select "DISC."
(DECK Information Screen)



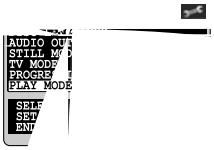
6 **Press *SET*** to set mode.
Cursor moves to "REPEAT."
To cancel, select "REPEAT : OFF" in step 5, then **press *SET*.**

DVD Operation

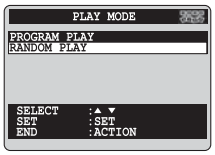
Random Play (Video CD/CD only)

Tracks are played in a random order.

1 **Press *ACTION****
to display DVD MAIN MENU.

2 

Press ▲▼
to select “PLAY MODE,” and
press *SET*
to display.

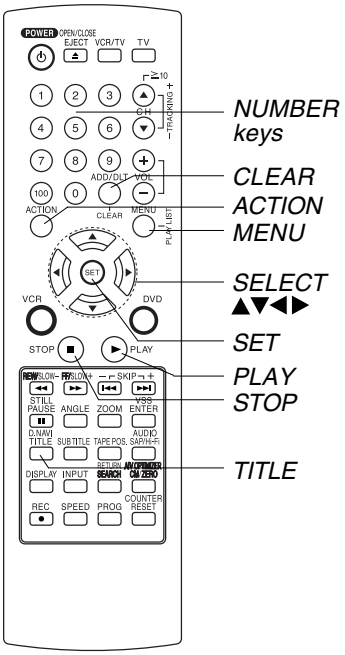
3 

Press ▲▼
to select “RANDOM PLAY,” and
press *SET*
to begin random play.

- To cancel, **press *STOP*** during play, then **press *CLEAR***.

Ready Checklist

☐ DECK is in DVD mode, press DVD.



*__Important:__ If a remote control button does not work when pressed, press the DVD button on the remote and try the button again.

Title Menu (DVD only)

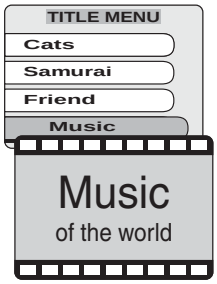
Some DVDs have more than one title, e.g. movies.
If the disc offers a title menu, you can select the desired title number. (Operation may vary according to the disc.)

1

<Example>

Press *TITLE** in Play mode to display the title screen.

2



<Example>

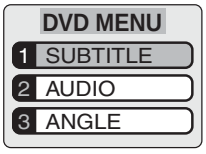
Press ▲▼◀▶ or *NUMBER keys* to select a title, and **press *SET*** or ***PLAY*** to start playing.

- "Pressing *SET* or *PLAY*" is not necessary when using *NUMBER keys.*

DVD Menu (DVD only)

DVDs may offer a special menu. This menu may include guides to unique contents, audio/subtitle languages, etc. Although contents and operation may vary, the following steps show basic procedure for using the menu.

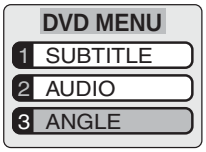
1



<Example>

Press *MENU* in Play mode to display DVD MENU.

2



<Example>

Press ▲▼◀▶ or *NUMBER keys* to select an item, and **press *SET*** or ***PLAY*** to perform.

- Pressing *SET* or *PLAY* is not necessary when using *NUMBER keys.*

Repeat step 2 if there is more than one menu.

DVD-RAM Operation (DVD-RAM only)

You can enjoy playing your personally recorded/edited DVD-RAM discs on this DECK.

Note

• This DECK was designed for playback only. DVD-RAM recording is not possible.

Play a DVD-RAM

1 **Do steps 1 ~ 3 on page 22.**

• Play begins from the first program title recorded on the DVD-RAM.

2 **Press *D.NAVI**** or ***PLAY LIST*** to display Direct Navigator or Play List menu for easy title or scene selection.

• See below for "Direct Navigator" or next page for "Play List information".

3 **Press *STOP*** to stop playing.

4 **Press *OPEN/CLOSE*** to eject the disc.

Direct Navigator

If the DVD-RAM features Direct Navigator, a list of recorded titles is displayed. Simply select a title number and start playback. (Operation can vary with disc used.)

1 **Press *D.NAVI***
in Play/Stop mode to display the Direct Navigator menu.

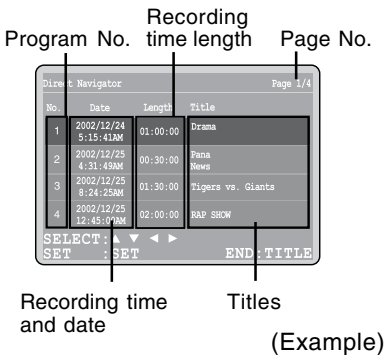
2 **Press ◄►** to select a page and **press ▲▼** to select a title (Program No.).
Then, **press *SET*** or ***PLAY*** to start playing.

• "Pressing SET or PLAY" is not necessary when using NUMBER keys.

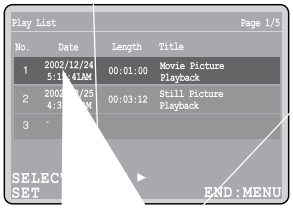
Using NUMBER keys starts playing automatically.
The number of available titles varies with each disc.

<Input Example> 1 digit number 1 : 1
2 digit number 12 : ≧10 ➝ 1 ➝ 2

3 **Press *D.NAVI*** to clear Direct navigator menu.



(Example)


Play List
Page 1/5
No.
Date
Length
Title
1
00:01:00
Movie Picture
Playback
2
00:03:12
Still Picture
Playback
3
SELEC
SET
END : MENU

OPEN/CLOSE
MENU
SKIP
ENTER
RETURN

DVD Operation using On-Screen Displays

When *DISPLAY* is pressed, On-Screen Displays show disc information (title/chapter/track number, elapsed playing time) and DECK information (repeat play, play mode).

1 **Press *DISPLAY**** in Play or Stop mode to display "On-Screen Displays."

- Each **press** of ***DISPLAY*** changes the on-screen display as follows. (Refer to pp. 44 ~ 48.)

Selected Disc information (See pp. 45, 46.)

Selected DECK information (See pp. 47, 48.)

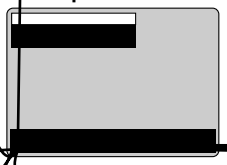
Normal Screen

- *DISPLAY* button does not function while main menu of DVD, title menu of DVD, Direct Navigator or Play List is displayed.

2 **Press ▲▼** to select an item, and **press *SET*.**

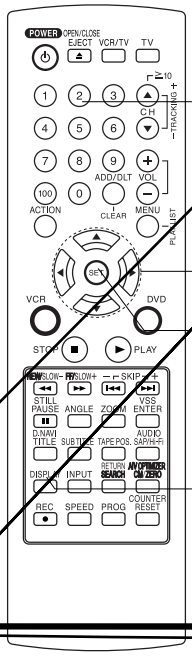
3 **Press ▲▼** or ***NUMBER keys*** to select the setting, and **press *SET*.**

<Example of DVD-Video>



- When numbers are displayed (e.g. title number), *NUMBER keys* are also available.
- If the number entered is not on the disc, the entry will have no effect. Re-enter the correct number.
- For more details, refer to the disc operation information.

To return to normal screen, press *DISPLAY* repeatedly.



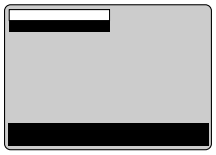
NUMBER keys

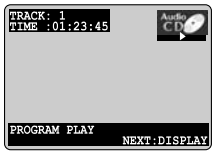
SELECT ▲▼◀▶

SET

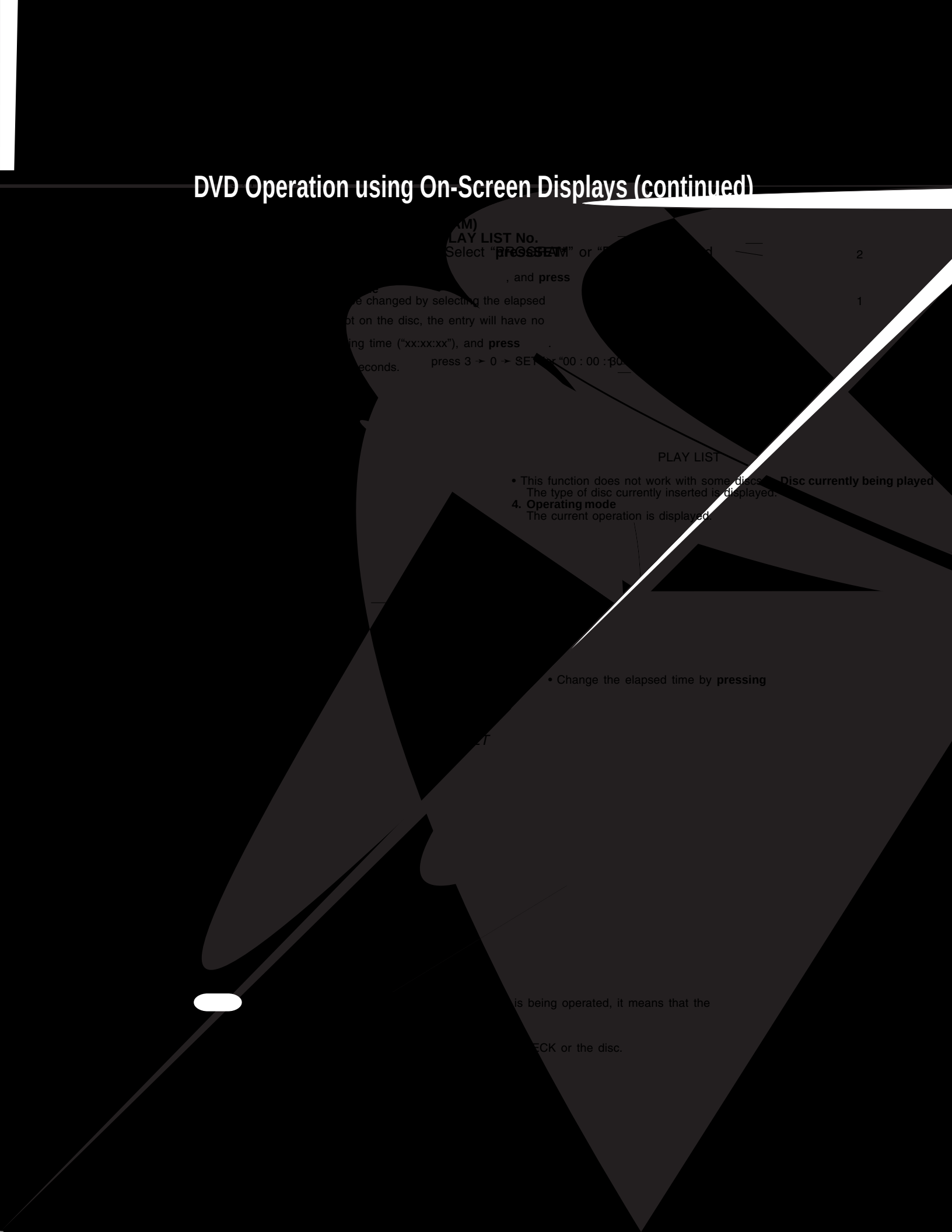
DISPLAY

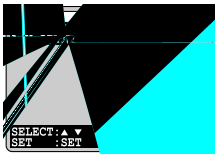
- When ***DISPLAY*** button is pressed during playback of a Video CD with Playback control, ***NUMBER keys*** are not available on the displayed screen. In this case, **press *DISPLAY*** again to remove the displayed screen.
- When ⃠ appears on the screen while a button is being operated, it means that the corresponding operation is prohibited by DECK or the disc.




TRACK: 1
TIME :01:23:45
Audio CD
PROGRAM PLAY
NEXT:DISPLAY

DVD Operation using On-Screen Displays (continued)


PLAY LIST
• This function does not work with some discs.
Disc currently being played
The type of disc currently inserted is displayed.
4. Operating mode
The current operation is displayed.
• Change the elapsed time by pressing
is being operated, it means that the
ECK or the disc.


SELECT:▲ ▼
SET :SET

sed,
tton again.

MP3/JPEG Playback Operation

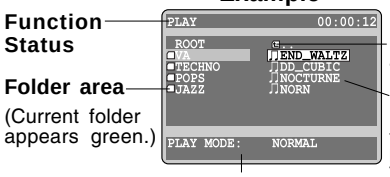
This unit can play MP3/JPEG format CD-R or CD-RW recorded for personal use on a PC, etc. Some discs may not play due to the condition of the recording.

1 **Press *POWER**** on the remote or DECK.

2 **Press *OPEN/CLOSE*,** then place an MP3/JPEG disc into the disc tray.
Press *OPEN/CLOSE* to close.

3
- MP3/JPEG MENU is displayed.
- Playback starts automatically (except JPEG files).
- CD directory is displayed.

<Example>



Function Status

Folder area (Current folder appears green.)

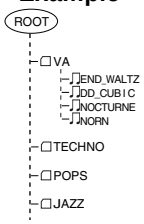
Parent folder

File area (Selected file/folder is highlighted. Titles are displayed up to 11 characters.)

PLAY MODE

♫: MP3 file	**: JPEG file**
: Folder	**: Parent folder**

<Example>



(Diagram left shows CD directory structure as displayed in example OSD above.)

Notes
- Only File (not Folder) area operation is possible.
- Files are displayed in the following order: (!...0,1....9,A,B.....Z).

4
- **Select file** (During STOP mode)
  1) **Press ▲▼** to select an MP3 file (♫). ➡ MP3 Playback (see right)
  2) **Press ▲▼** to select a JPEG file ( ). ➡ JPEG Playback (see p. 50)
  3) **Press *SKIP+* ▶▶|** (next) or ***SKIP-* |◀◀** (previous) to skip a file/folder page (7 files) in the File area.
- **Select folder** (During STOP mode)
  1) **Press ▲▼** to select a folder ( ).
  2) **Press *SET*** to display files/folders contained in the folder.
- **Select parent folder** (During STOP mode)
  1) **Press ▲▼** to select a folder ( ).
  2) **Press *SET*** to make changes to the previous directory display.

5 **Press *ACTION*** to return to the DVD MAIN MENU. (➛ **Press *ACTION*** again to return to the MP3/JPEG MENU.)

MP3 Playback

Do steps 1~3 at left.

a **Press ▲▼** to select an MP3 file (♫). (During STOP mode)

b **Press *SET*** or ***PLAY*** to start playback.

■ **Forward/Reverse Search**
Press *FF/SLOW+* or ***REW/SLOW-*** during play.
Press *PLAY* to release.
- Search speed, slow at first, increases with each additional press of the button up to 5 levels.

■ **Forward/Reverse Track Skip**
Press *SKIP+* ▶▶| or ***SKIP-* |◀◀** during play.
Each press skips a track.
- If pressed within first 3 seconds of playback, skips to the previous track. If over 3 seconds, returns to top of track. (***SKIP-* |◀◀** only.)
- Put DECK in Stop mode before performing folder/file selection (see step 4.)

■ **Pause**
Press *PAUSE* during play.
Press *PLAY* to release.

c **Press *STOP*** to stop play.

d **Press *OPEN/CLOSE*** to eject the disc. The MP3/JPEG MENU is closed automatically.

Note
- Copyright protected files and files containing errors cannot be played back. The DECK skips to the next file.

■ **Select PLAY MODE [MP3 Playback]**
(During STOP mode)
Press ◀▶ to select the desired PLAY MODE (see below).

[PLAY MODE]

NORMAL: All MP3 files are selected and played back one time only.
SINGLE REPEAT: The selected MP3 file is played back repeatedly.
FOLDER REPEAT: The MP3 files contained in the selected folder are played back repeatedly. However, folders below the selected folder are not played back.
DISC REPEAT: All MP3 files are played back repeatedly.

DVD Operation

MP3/JPEG Playback Operation (continued)

JPEG Playback

You can play back JPEG images.
Displayable Image Size: 32×32~7680×7680 pixels

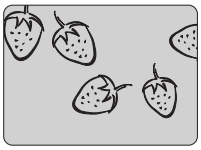
Note • Some JPEG format may not be played back.

Do steps 1~3 on page 49.

1 **Press ▲▼** to select a JPEG file (🖻).

2 **Press *SET*** or ***PLAY*.**
Selected JPEG file is displayed.

[JPEG Playback Screen]



<Example>

- **Returned on the MP3/JPEG MENU**
  ➡ **Press *STOP*.** (See p. 49)
- **Next/Previous Search**
  ➡ **Press *SKIP+* ▶▶|** or ***SKIP-* |◀◀.**
- **Start Slide-show ➡ Press *FF/SLOW+*** or ***REW/SLOW-*.** (below)
- **Enlarging an image ➡ Press *ZOOM*.** (P. 51)
- **Rotating an image ➡ Press *ANGLE*.** (P. 51)

3 **Press *STOP*** to return to the MP3/JPEG MENU.

JPEG Slide-show

(During JPEG Playback.)

JPEG files are displayed automatically (about every 3 seconds) as a slide-show.

1 **Press *FF/SLOW+*** or ***REW/SLOW-*.**

<Example>

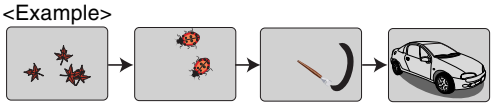


Image changes every 3 seconds.

- **Cancel slide show**
  ➡ **Press *STOP*** to return the MP3/JPEG MENU. (See p. 49)
- **Still picture**
  ➡ **Press *STILL*** (only SLIDE).
  ➡ **Press *PLAY*** to release.
- **Forward/Reverse File Skip**
  ➡ **Press *SKIP+* ▶▶|** or ***SKIP-* |◀◀.**
  Each press skips a file.

2 **Press *ACTION*** to return to the DVD MAIN MENU.

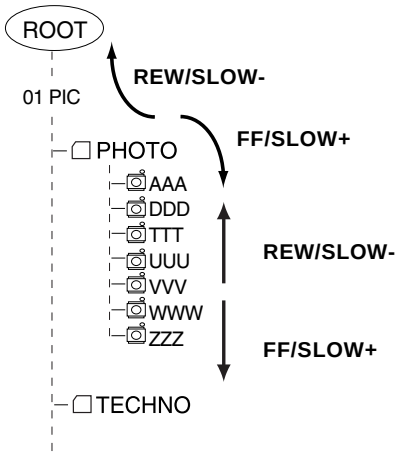
- **Select PLAY MODE [JPEG Slide-show]**
  (During STOP mode)
  Press ◀ ▶ to select the desired PLAY MODE (See below).

[PLAY MODE]

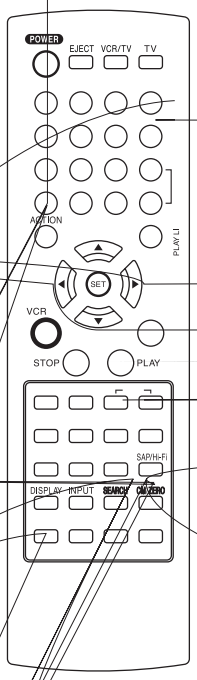
NORMAL: All JPEG files are selected and played back one time only.
SINGLE REPEAT: The selected JPEG file is played back repeatedly.
FOLDER REPEAT: The JPEG files contained in the selected folder are played back repeatedly. However, folders below the selected folder are not played back.
DISC REPEAT: All JPEG files are played back repeatedly.

<Example>

Operation can be done when files are in order, such as in the diagram below.

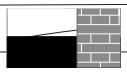


You can enlarge specific portions of a JPEGpicture and select the zoom ratio using the

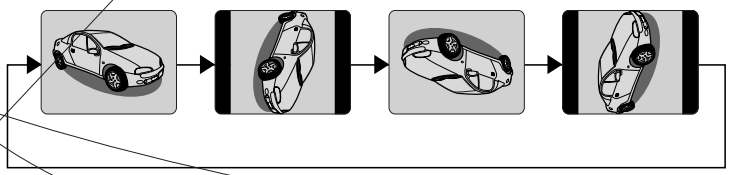


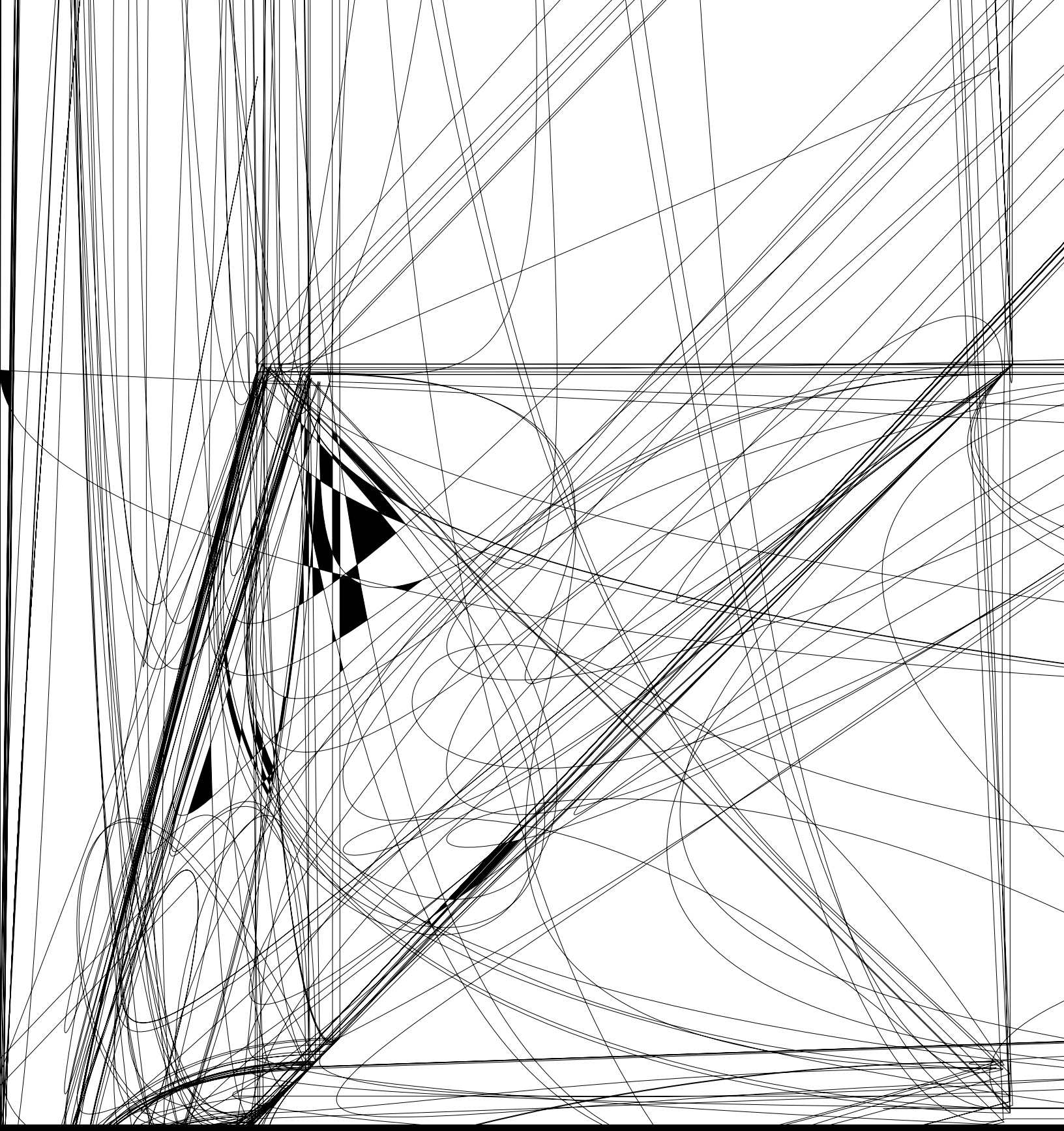
Set Zoom size.

Press repeatedly to change displayas follows.➡**PressSTOP** to return



3rd press

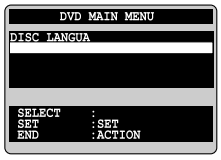




Audio Output (DVD only)

Select the digital output to be output from the optical digital audio output connector of DECK.

1 **Press *ACTION*** to display DVD MAIN MENU.

2 

Press ▲▼ to select "AUDIO OUTPUT," and **press *SET*** to display screen.

3 **Press ▲▼** to select an item, and **press *SET*** repeatedly for output. (See below.)

■ "LPCM (DVD)" selections

OFF: Linear PCM of less than 48 kHz/16 bit is output. When playing DVDs recorded in linear PCM of over 48 kHz/20 bit, no digital audio is output. (Factory preset)

PCM: When playing DVDs recorded in linear PCM of 48 kHz/20 bit/24 bit or more, digital audio converted to 48 kHz/16 bit is output.
(Digital output of PCM audio is restricted to 48 kHz/16 bit or below for copyright protection.)

■ "Dolby Digital" selections

Bitstream: Dolby Digital bitstream (1 ch - 5.1 ch) is output. (Factory preset)

PCM: When you have connected an amplifier that doesn't have a built-in Dolby Digital decoder.

■ "dts" selections

Bitstream: DTS bitstream is output. (Factory preset)

PCM: When you have connected an amplifier that doesn't have a built-in DTS decoder.

■ "DRC (Dynamic Range Compression)" selections

OFF: Normal audio range is selected. (Factory preset)

ON: For dynamic sound even at low volume,
this is useful for late-night listening.
[Dolby Digital DVDs only].

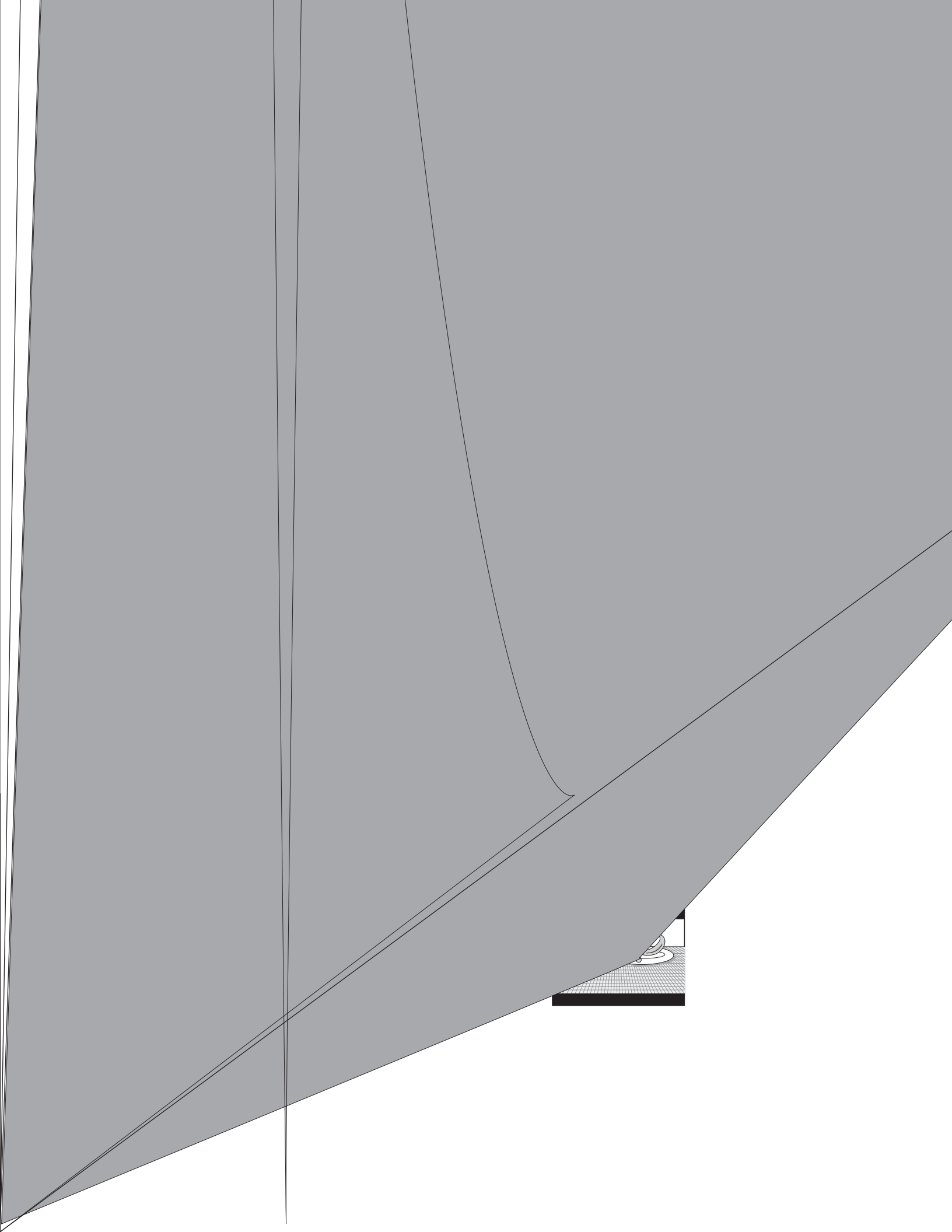
4 **Press *ACTION*** to redisplay DVD MAIN MENU and go to step 2 to setup another item.
Or, **press *ACTION*** twice to exit.

Type of amplifier to be connected	Recommended setting		
	LPCM (DVD)	Dolby Digital	DTS
No amplifier is connected	——	——	——
AV amplifier (with digital audio input connector) without Dolby Digital/DTS decoder	PCM	PCM*1	PCM*1
AV amplifier including Dolby Digital decoder	PCM	Bitstream	PCM
AV amplifier including Dolby Digital/DTS decoder	PCM	Bitstream*2	Bitstream*2

• Make settings according to amplifier connected to optical audio output as shown in above table.

*1 When connecting an amplifier (with an optical digital input connector) which does not contain the Dolby Digital or DTS decoder, be sure to select "PCM". If "Bitstream" is selected, starting DVD play may cause such a high level of noise as to be harmful to your ears and damage the speakers.

*2 When a dts decoder is connected, please select "Bitstream" in "dts." When a Dolby Digital decoder is connected, please select "Bitstream" in "Dolby Digital." If "PCM" is selected, there will be stereo sound.



RO RESSIVE OU

s the omponent Video
utpu he Progressive s

1 **Pre s *ACTION***
to play DVD M

2

o sele
SIVE UT,"

SE epeat dly for
(S elow

OFF: Progress is output
ON: Progres gna put from the
Compo deo Ou nector.

3 **Pres *ACTION***
o e t this mode.

A/V OPTIMIZE

You ca set to prese eo effe s des d.

1 **Press *A/V OPTIMIZER***
in PL mode isplay
/ OPT R
n-screen.

• D lay appears afte
5 sec

2 **s *OPTIMIZER***
he desired mode

SET

A/V
TIMIZE

The video/a ct e is

Mode	Video	Audio
NORMAL	Standard	Stand
CINEMA	Bri s are subdued.	Inh /low r f dy d.
DRAMA	Standard video	R duce igh/low ra o dialog a vocals can be h ly.
ACTION	Bri ess and rpness are d.	igh/low ge ic d.

de video effect may not be obtai nd the audio/video effects
work well.

DVD Operatic

Language Code List

Enter the appropriate code number for the initial settings “AUDIO”, “SUBTITLE” and/or “MENUS” (see p. 52).

Code	Language
6566	Abkhazian
6565	Afar
6570	Afrikaans
8381	Albanian
6577	Ameharic
6582	Arabic
7289	Armenian
6583	Assamese
6588	Aymara
6590	Azerbaijani
6665	Bashkir
6985	Basque
6678	Bengali; Bangla
6890	Bhutani
6672	Bihari
6682	Breton
6671	Bulgarian
7789	Burmese
6669	Byelorussian
7577	Cambodian
6765	Catalan
9072	Chinese
6779	Corsican
7282	Croatian
6783	Czech
6865	Danish
7876	Dutch
6978	English
6979	Esperanto
6984	Estonian
7079	Faroese

Code	Language
7074	Fiji
7073	Finnish
7082	French
7089	Frisian
7176	Galician
7565	Georgian
6869	German
6976	Greek
7576	Greenlandic
7178	Guarani
7185	Gujarati
7265	Hausa
7387	Hebrew
7273	Hindi
7285	Hungarian
7383	Icelandic
7378	Indonesian
7365	Interlingua
7165	Irish
7384	Italian
7465	Japanese
7487	Javanese
7578	Kannada
7583	Kashmiri
7575	Kazakh
7589	Kirghiz
7579	Korean
7585	Kurdish
7679	Laotian
7665	Latin
7686	Latvian, Lettish

Code	Language
7678	Lingala
7684	Lithuanian
7775	Macedonian
7771	Malagasy
7783	Malay
7776	Malayalam
7784	Maltese
7773	Maori
7782	Marathi
7779	Moldavian
7778	Mongolian
7865	Nauru
7869	Nepali
7879	Norwegian
7982	Oriya
8083	Pashto, Pushto
7065	Persian
8076	Polish
8084	Portuguese
8065	Punjabi
8185	Quechua
8277	Rhaeto-Romance
8279	Romanian
8285	Russian
8377	Samoan
8365	Sanskrit
7168	Scots Gaelic
8382	Serbian
8372	Serbo-Croatian
8378	Shona
8368	Sindhi

Code	Language
8373	Singhalese
8375	Slovak
8376	Slovenian
8379	Somali
6983	Spanish
8385	Sundanese
8387	Swahili
8386	Swedish
8476	Tagalog
8471	Tajik
8465	Tamil
8484	Tatar
8469	Telugu
8472	Thai
6679	Tibetan
8473	Tigrinya
8479	Tonga
8482	Turkish
8475	Turkmen
8487	Twi
8575	Ukrainian
8582	Urdu
8590	Uzbek
8673	Vietnamese
8679	Volapük
6789	Welsh
8779	Wolof
8872	Xhosa
7473	Yiddish
8979	Yoruba
9085	Zulu

Warning and Instruction Displays

These displays will alert you to a missed operation or provide further instructions.

OSD	Caution	Page
PLEASE SET CLOCK BY PRESSING ACTION KEY	If you attempt to set or review a Timer Recording and the Clock is not set...	24
PLEASE PREPARE FOR TIMER REC	If the DECK is not in Stop mode, or cassette is not inserted, or cassette has no record tab, or tape is at its end 2 minutes before a Timer Recording is about to begin...	24 25
CHECK CASSETTE RECORD TAB	If you press REC on the remote control or DECK, and a cassette is inserted with no record tab...	6
NO CASSETTE	If you press PLAY, FF, REW, or REC on the remote control or DECK without a cassette inserted...	20 21
TO CANCEL TIMER REC HOLD DOWN STOP KEY FOR APPROX 3 SEC	If you press STOP or POWER during a Timer Recording... (visible in VCR mode only)	25
VIDEO HEADS MAY NEED CLEANING PLEASE INSERT HEAD CLEANING CASSETTE OR REFER TO MANUAL **END : PLAY**	If head cleaning becomes necessary while playing back a tape...	4
PLEASE CHECK THE DISC, AND FOR STAINS OR SCRATCHES ON DISC	If you press PLAY, and DECK reads data from a stained or scratched disc in DVD mode.	6
THIS DISC MAY NOT BE PLAYED IN YOUR REGION	Playback of a disc with different region number was attempted. Only discs marked region “1”, “ALL”, or those that include “1” are playable on this DECK.	3
THIS TYPE OF DISC CANNOT BE PLAYED. PLEASE INSERT A DIFFERENT DISC	An unusable disc is inserted in the unit, or the disc is not installed with label side up.	6
CANNOT PLAY THIS FILE	This file format cannot be played. (Appears during MP3/JPEG file playback)	49

Before Requesting Service

Check the following points if you are having trouble with your DECK.

Power	Solution
No power…	• Completely insert Power Plug into an AC outlet. • Press POWER button on. • Make sure power source is active.
Power turns itself off...	• Auto power-off (shutoff) occurs after about 5 min. in DVD mode with no operation, or if there is no broadcast signal in TV or Playback mode. Turn the power back on. (pp. 23, 33)
Recording & Playback	**Solution**
TV program cannot be recorded...	• Check connections between DECK, external antenna, and TV. • Check channel selections. • Make sure your antenna system (CABLE or TV) is correctly set. (Channels [p. 18]) • Make sure cassette record tab is intact. (p. 6)
Timer recording cannot be performed…	• Confirm that clock is set to current time and date. • Make sure Cable/DSS box (if used) is left on and tuned to channel to be recorded. • Set recording start/stop times correctly. (p. 24) • Timer recording may not be performed or continued if a power interruption occurs before or during a Timer Recording, even after power is restored.
There is no playback picture, or the playback picture is noisy or contains streaks...	• Select channel 3 or 4 on TV to match VCR output channel (3 or 4) (p. 16) or select LINE. • Set VCR/TV selector to “VCR.” • Adjust TRACKING control in either direction. (p. 4) • Try Head Cleaning. (p. 4)
During special effects playback picture may contain some vertical jitter when using a TV with an Automatic Vertical Hold Control...	• Set TV’s Vertical Hold Control to MANUAL, then adjust.
DECK cannot be controlled...	• Make sure DECK power is on. • Check Remote batteries. • Make sure Remote is in proper mode. (p. 28) • Make sure Timer Recording is not in progress.
Remote Control	**Solution**
DECK cannot be remote controlled...	• Make sure DECK power is on. • Make sure Remote is in VCR mode. • Aim Remote Control directly at remote sensor on DECK. (p.9) • Avoid any object blocking signal path. • Check Remote batteries. (p. 4) • Exposing DECK remote sensor to direct fluorescent or outdoor light may cause signal interference.
PROG buttons do not respond...	• PROG functions are not available in COMPONENT Video Output and S-VIDEO OUT. Set TV to either RF IN or VIDEO IN. (p. 10) • Check Remote batteries. (p. 4) • Press VCR or DVD button for DVD/VCR mode. (p. 28)

DVD/ Video CD/ CD	Solution
Play fails to start even when PLAY is pressed...	• This DECK cannot play discs other than DVDs, Video CDs and CDs. • The disc may be dirty and require cleaning.
Picture is distorted during rapid advance or rapid reverse...	• The picture will be somewhat distorted at times: this is normal.
No Forward/Reverse Scene Search play...	• Some discs may have sections which prohibit Forward/Reverse Scene Search. (p. 23)
Audio soundtrack and/or subtitle language is not the one selected at the initial settings...	• If the audio soundtrack and/or subtitle language selected at DVD initial settings does not exist on the disc, it will not be accessible.
No subtitles...	• Subtitles appear only when available on disc. • “OFF” is selected at the changing subtitle language. Select “ON” at the “Subtitle Languages” section (p. 36) to display the subtitles.
Alternative audio soundtrack (or subtitle) language cannot be selected...	• Alternative language cannot be selected with discs which do not contain more than one language. • For some discs, alternative language cannot be selected with the AUDIO or SUB TITLE button. Try selecting it from the DVD MAIN MENU if available.
Angle cannot be changed...	• This function is dependent on software availability. Even if disc has multiple angles, they may be recorded for specific scenes only. (p. 37)
Miscellaneous	**Solution**
Programs cannot be viewed on TV...	• Make sure TV is tuned to VCR's output channel (3 or 4). • Check connections between DECK, external antenna, and TV. • Set VCR/TV selector to “TV.” (p. 21) • Make sure proper signal source is selected. • If the television is not progressive compatible, a progressive scan picture is not available. Connect the Video Output or S-Video Output connector (pp. 12, 13) and set PROGRESSIVE OUT to “OFF” in the DVD Main Menu. (p. 55)
Video cassette cannot be inserted...	• Insert the cassette with window side up; record tab facing you.
Video cassette ejects when a recording is started or the power is turned off for timer recording...	• Make sure cassette record tab is intact. (p. 6)
In Stop mode, the motor (CYLINDER) continues to rotate...	• To enable Quick play mechanism, the cylinder will rotate for about 3 minutes. This reduces response time from Stop to Play mode.
The disc cannot be removed..	• First, unplug DECK. Then, prepare a rigid wire (e.g. an extended paper clip) and, applying moderate force, insert it straight into the hole at the base of the tray. The tray will eject a little. Now, pull the tray all the way out and remove the disc. (p. 9)

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